

**TOWARD A STRENGTH-BASED APPROACH TO RISK ASSESSMENTS:
AN EXAMINATION OF THE MEASUREMENT AND CLINICAL USE OF
INFORMATION ABOUT YOUTH STRENGTHS**

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ABSTRACT

This dissertation consists of three studies concerning the measurement and clinical use of youth strengths in assessments of adolescents' risk to reoffend. The first chapter provides a review of the theoretical frameworks of offender rehabilitation, the strength-based approach, and findings emerging from research on youth strengths. Rationales for each study in this thesis, derived from this literature, are also offered. Chapter 2 encompasses two empirical studies in which the extent to which a risk assessment tool (YLS/CMI) and its revised version (YLS/CMI 2.0) capture youth strengths was evaluated. These tools are based on the Risk-Need-Responsivity (RNR) model of offender rehabilitation. Standard practice in the clinical use of information about youth strengths was examined in these parallel studies. Power to predict recidivism was also assessed in the first study. Chapter 3 describes the validation of the Strengths Assessment Inventory-Youth Version (SAI-Y), a novel and more comprehensive strengths assessment tool than the actuarial measures used in Chapter 2. Finally, in Chapter 4, the results and significance of the three studies are discussed within a broader context and future directions for research are suggested. Three main conclusions can be gleaned from Chapters 2 and 3: 1) current tools derived from the RNR framework do not appear to be useful measures of justice-involved youth's personal strengths; the SAI-Y is a more promising tool; 2) the process of integrating strengths in risk assessments is not consistent; and 3) the role of strengths as responsivity considerations within the RNR model remains to be investigated. Together, these findings constitute a step toward the

operationalization and clinical use of youth strengths in risk assessments. They also highlight that justice-involved youths' strengths can be measured accurately.

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CHAPTER 1

GENERAL INTRODUCTION

Every year, thousands of Canadian adolescents engage in (Savoie, 2007), and are charged with, delinquent acts (Milligan, 2010). Only a small proportion of these youth go on to reoffend (Carcach & Leverett, 1999; Milligan, 2010). While small in number, this subset of high-risk youth exerts widespread societal consequences, as they are responsible for most offenses (Carcach & Leverett, 1999; Milligan, 2010) and often present with complex mental health needs (i.e., substance use, depression, and externalizing difficulties; Ford, Chapman, Pearson, Borum, & Wolpaw, 2008), which can result in further offending behaviour and loss of human potential (e.g., career, relationships, education) if left untreated (Public Health Agency, 2002). Youth who re-offend therefore not only tax the Canadian justice system but also the mental health service system. In addition to presenting a financial burden for society (Department of Justice, 2009), criminal behaviour carries important consequences for its targets (e.g., psychological, emotional) and the youth who commit it (e.g., stigma, limitations on freedom). Preventing offending behaviour and recidivism is thus of outmost importance.

Research consistently demonstrates that punitive efforts, such as incarceration, have been of limited utility in reducing recidivism in young persons (see Day & Howells, 2002; see Gendreau, 1996). Empirically-based rehabilitation efforts, however, appear to be most effective in breaking the cycle of juvenile delinquency (Andrews & Bonta, 2006; see Day & Howells, 2002; Dowden & Andrews, 2000). In 2003, the Young Offenders

Act was replaced by the Youth Criminal Justice Act (YCJA), in part, to facilitate the rehabilitation of adolescents in conflict with the law in Canada. This latter Act was designed to promote the integration of multiple aspects of youth's lives, including mental health, in decisions surrounding sentencing. The new act has resulted in longer case processing times, but fewer custodial sentences (Milligan, 2010). Moreover, additional benefits have resulted from the new Act including a greater number of extrajudicial sanctions or diversion measures are now imposed, particularly for first-time offenders and young persons who incurred less serious charges (Milligan, 2010).

In March 2012, Bill C-10 was enacted in Canada (Government of Canada, 2012) and undoubtedly marked a step backward with respect to offender rehabilitation. In addition to modifying several acts, the Bill altered important aspects of the YCJA. Specifically, Bill C-10: calls on judges to consider the principles of deterrence and denunciation in the sentencing of young persons, as they would when sentencing adults; facilitates the pre-sentencing detention (remand) of young persons; allows the court to sentence a youth to custody if the youth has been granted a number of extrajudicial sanctions in the past; requires the Crown to consider seeking an adult sentence for youth convicted of violent offenses (e.g, murder, aggravated sexual assault); promotes the publication of the names of young persons found guilty of violent offenses; and requires the police to document extrajudicial sanctions imposed to document youth's criminal history (Government of Canada, 2012).

In light of this return to more punitive measures, it has become even more pressing to promote offender rehabilitation and achieve a deeper understanding of the factors that foster it. Reducing recidivism and its costs to youth and the state will benefit all parties. Accurately assessing justice-involved youth's risk to reoffend and illuminating their criminogenic needs is thus essential to protect the public, guide treatment, and promote rehabilitation. Recently, some have recommended adding measures of personal strengths to the traditional assessment of delinquent adolescents' risk to reoffend (Andrews & Dowden, 2007). Measuring this construct makes theoretical and practical sense, but empirical evidence of this practice is scarce.

The tenets of evidence-based practice in psychology dictate the importance of employing appropriate measures (i.e., supported by research) to assess clinical constructs and using these tools judiciously to guide treatment and promote welfare (APA, 2006). In this doctoral thesis, the extent to which juvenile risk assessments involve a strength-based approach is evaluated, and the manner in which strengths are measured is explored. The following introduction describes the principal theoretical models of offender rehabilitation: The Risk-Need-Responsivity (RNR) model and the Good Lives Model (GLM) of offender rehabilitation. Next, literature on the strength-based perspective in general and in a forensic context is discussed, and conceptual issues concerning the notion of 'strength' are noted. Following this is a discussion of the limitations of current risk assessment protocols concerning the measurement and use of strengths.

Theoretical Models of Offender Rehabilitation

Broadly speaking, offender rehabilitation involves desistance from crime.

Rehabilitation theory concerns the values, goals, principles, and assumptions used to guide intervention in order to achieve desistance from crime (Robertson, Barnao, & Ward, 2011). The assessment and management of risk to reoffend is an increasingly central aspect of rehabilitation efforts (Mullen, 2000). Additionally, a robust rehabilitation model is rooted in theory, offers an explanation of criminal behaviour, carries implications for practice, and outlines change mechanisms at play in the rehabilitation process (Robertson et al., 2011; Ward, Melser, & Yates, 2007).

The Psychology of Criminal Conduct

Andrews and Bonta have been refining their rehabilitation theory, the Psychology of Criminal Conduct (PCC), for over thirty years. Overall, the PCC concerns individual differences (i.e., biological, psychological, sociocultural, personality, behaviour-environment contingencies) that can account for the variation in criminal behaviour. A focus on individual differences emphasizes the complexity and diversity of human beings (Andrews & Bonta, 2010). Understanding of individual differences is achieved empirically, theoretically, and in practice. The PCC rests on a solid theoretical foundation formed with principles drawn from humanistic, personality, and cognitive social learning psychology. In practice, the PCC entails the ethical and sensitive application of empirical evidence to explain criminal behaviour, predict recidivism, and minimize the negative

consequences of crime for offenders, targets of crime, and society (Andrews & Bonta, 2010).

The Risk-Need-Responsivity (RNR) model. The RNR approach was developed as a risk assessment and case management model derived from the overarching principles of the PCC. Currently, the RNR model is the approach of choice to promote offender rehabilitation in youth and adults. This approach is increasingly supported in empirical studies (Bechtel, Lowenkamp, & Latessa, 2008; Onifade et al., 2008; Viljoen et al., 2009) and meta-analyses (Schwalbe, 2008). Findings to date show that adherence to it in custodial and community settings is associated with a decrease in general (Andrews & Bonta, 2010; Dowden & Andrews, 2000) and sexual recidivism (Hanson, Bourgon, Helmus, & Hodgson, 2010). As its name indicates, the three core principles of the RNR approach are risk, criminogenic need, and responsivity (Andrews, Bonta, & Hoge, 1990; Andrews & Bonta, 2010).

The *risk principle* is twofold. First, it dictates that a youth's future criminal behaviour can be predicted if his or her risk level is considered. Assessment based on the risk principle should thus involve the evaluation of factors known to be predictive of recidivism (Andrews & Bonta, 2010). It is important to clarify that the risk principle relates to a person's overall risk level, which is estimated based on the number of risk factors (i.e., criminogenic needs) an individual possesses, but it does not directly concern individual risk factors. Second, it holds that rehabilitation will be promoted if the intensity of treatment is commensurate with that level of risk (Andrews & Bonta, 2010).

Accordingly, individuals identified as being at moderate, high, or very high risk to reoffend will receive the most intensive treatments, levels of community supervision, and levels of custody. Low-risk individuals, on the other hand, should not have less accountability for their actions, but they constitute ideal candidates for early release and lower levels of supervision compared to higher-risk groups. The rationale of the risk principle is that intensive treatment may expose low-risk individuals to high-risk peers, which could result in the creation of additional risk factors and interfere with existing strengths (Andrews, Bonta, & Wormith, 2011; Andrews & Dowden, 2007). Research supports the validity of the low- and high-risk classifications of individuals (Bechtel et al., 2008; Onifade et al., 2008; Vieira, Skilling, & Peterson-Badali, 2009).

The *need principle* holds that rehabilitation will be more likely when an individual's criminogenic needs are the primary target of intervention (Andrews & Bonta, 2010). Criminogenic needs are a set of risk factors that are predictive of criminal conduct. Needs that are dynamic (e.g., school conduct, antisocial peers, inadequate parental supervision), and by definition malleable, therefore serve as intermediate treatment goals. Modifying dynamic risk factors in treatment will, according to the need principle, mitigate at least some of the predictors of future criminal conduct (Andrews & Bonta, 2010; see Gendreau, 1996). Antisocial attitudes (Skilling & Sorge, 2013; Watt, Howells, & Delfabbro, 2004) and antisocial peers (Watt et al., 2004) are some of the most influential criminogenic needs for justice-involved youth.

The *responsivity principle* involves the matching of treatment delivery mode to the learning style, strengths, and other characteristics of the offender (Andrews et al., 1990). Responsivity can be general or specific. General responsivity refers to the broad characteristics of an intervention that promote rehabilitation (Andrews & Bonta, 2010). Behavioural, social cognitive, and cognitive-behavioural approaches have been found to be most effective in promoting rehabilitation among justice-involved populations (see Day & Howells, 2002; see Gendreau, 1996). It is intuitive that learning and skill-building strategies would enhance a youth's benefit from treatment. As with any clinical intervention, however, treatment should be delivered in a developmentally or cognitively appropriate way to be effective. Examples include using age-appropriate language (e.g., "criminal behaviour" instead of "antisocial behaviour") and modality (e.g., using visual aids to supplement verbal information for youth with poorly developed verbal reasoning abilities).

Specific responsivity considerations are individual characteristics of the offender that are not directly linked to recidivism but may promote or hinder treatment effectiveness (Andrews & Bonta, 2010). Verbal intelligence, maturity, and mental health issues (e.g., anxiety, psychosis) are examples of factors that are important to keep in mind when delivering treatment (Bonta, 1995). These specific responsivity factors should be matched to treatment delivery, therapeutic setting, and treatment provider characteristics in order to promote a positive response to treatment (Andrews & Bonta, 2010).

Theoretically, intervention and treatment provider characteristics that are more closely

suited to a youth's responsivity considerations will be more likely to engage the youth, which in turn will result in greater retention of the therapeutic material, increased treatment completion, and reduced recidivism (Wormith & Olver, 2002).

Relative to the principles of risk and need, responsivity is the least developed, largely because this concept remains "underexplored" empirically (Andrews & Bonta, 2010, p. 507). In turn, the lack of clarity surrounding this important concept has likely contributed to the paucity of research on the topic, as it is challenging to accurately study a concept that is not fully operationalized. Recent research concerning responsivity yielded inconclusive results. Hubbard (2007) examined the impact of gender, age, low intelligence, low self-esteem, a history of sexual abuse, and depression, on the success of a cognitive-behavioural treatment and recidivism in a sample of over 400 male and female adult offenders. Risk level was found to predict treatment completion and recidivism, but the specific responsivity principle was not supported.

In a subsequent study, specific responsivity factors did not independently predict treatment success but a cumulative effect was observed. Relative to those with few negative responsivity considerations, male probationers who were assessed to have a greater number of negative responsivity characteristics (e.g., low self-esteem, a history of sexual abuse) benefited less from cognitive-behavioural treatment. Further, having multiple negative responsivity factors was at times linked to a worsening of cognitive distortions in probationers (Hubbard & Pealer, 2009). It is important to note that Hubbard did not examine the fit between offender responsivity factors and treatment

characteristics, or general responsivity. This adult offender research forms a base on which to build youth research on responsivity.

Vieira, Skilling, and Peterson-Badali (2009) sought to test the responsivity principle at the individual level. They wanted to determine if matching treatment efforts directly to a young person's criminogenic needs and specific responsivity considerations would have an impact on recidivism above and beyond level of risk. As hypothesized, they found that youth assessed to be at higher risk to reoffend did reoffend more often than their lower-risk counterparts. With respect to criminogenic needs, youth who had fewer of their needs met in treatment reoffended earlier and committed a greater number of offenses than those who had more needs targeted in treatment. Surprisingly, matching responsivity factors of youth to clinician and treatment characteristics did not significantly predict recidivism after criminogenic needs were accounted for, although they were significantly related to recidivism when examined alone (Vieira et al., 2009).

Strengths within the RNR model. The clinical practice of systematically assessing risks, needs, and responsivity considerations among justice-involved youth was derived from the RNR model. This practice continues to be of crucial importance to guide treatment planning and accurately predict future criminal conduct. In addition to measuring these core principles, Andrews and colleagues (Andrews, Bonta, & Wormith, 2006; Andrews & Dowden, 2007) recommended that factors such as personal strengths be assessed in order to facilitate offender rehabilitation. They view strengths as “characteristics of people and their circumstances that are associated with reduced

chances of criminal activity” (Andrews & Bonta, 2010, p. 22). Strengths are thus understood as specific responsivity considerations in the RNR model (Andrews & Bonta, 2010; Howells & Day, 2007). Andrews and Bonta (2010) thus suggest that when an offender’s motivation is low, building on strengths will assist in building rapport and will help increase motivation. Additionally, it is proposed that strengths may directly enhance the accuracy of risk prediction (Andrews & Bonta, 2010), although empirical support for this link is wanting (Andrews et al., 2006). Similarly, the benefit of assessing strengths seems intuitive but requires theoretical clarification and empirical validation (Andrews et al., 2006).

The Good Lives Model of Offender Rehabilitation and Treatment Readiness

The Good Lives Model (GLM) has recently been proposed as a strength-based alternative to the RNR model (Ward & Gannon, 2006). Overall, GLM proponents suggest that the RNR perspective neglects the concepts of personal strengths, identity, motivation for change, and treatment readiness (Day, Casey, Ward, Howells, & Vess, 2010). Further, they view the RNR model as prioritizing criminogenic needs over human needs.¹ In other words, reduced recidivism is seen as the only treatment goal in the RNR framework, while desistance from crime and well-being are both explicit outcomes in the GLM model (Ward & Gannon, 2006). Risk management as outlined in the RNR model is an important aspect of the GLM. However, proponents of the GLM suggest that the theoretical principles of risk, need, and responsivity are currently poorly integrated in

¹ Human needs within the GLM are akin to those outlined by Maslow (1943) as necessary for one to reach one’s full potential or become self-actualized (e.g., self-esteem, meaningful intimate relationships, respect by others, creativity).

clinical practice (Ward et al., 2007). Further, they posit that the GLM may be a more practical model of rehabilitation for offenders with mental health difficulties (Robertson et al., 2011).

The GLM includes a risk management component in which dynamic risk factors are viewed as internal or external obstacles to living a satisfying life. The GLM thus constitutes an innovative way to combine existing knowledge about risk factors to promote a strength-based perspective (Martin & Stermac, 2010). The GLM relies on the assumption that all human beings seek happiness and satisfaction, which are achieved by acquiring “human goods” (e.g., inner peace, knowledge, excellence in work) (Ward & Gannon, 2006, p. 79). Thus, human goods, like strengths, are attributes and mental states valued by society. From this view, criminal behaviour is a maladaptive way to obtain desired human goods. Rehabilitation is achieved once the strengths and skills necessary to attain human goods in an adaptive way are learned in the context of a strong therapeutic relationship (Day et al., 2010). The rationale is that offenders will opt for a crime-free existence once they are satisfied with their lives (Ward & Gannon, 2006). Helping offenders achieve better lives and acquire strengths is believed to increase motivation for change (Ward & Gannon, 2006). Accordingly, the GLM includes several motivational strategies (e.g., acknowledging client ambivalence, fostering a constructive approach to goal attainment, promoting client independence and competence) to enhance offenders’ self-efficacy and motivation for change (McMurrin & Ward, 2004). The model has been used primarily with adult sex offenders but its developers suggest it

would apply to a wide variety of problems and criminal behaviour (Day et al., 2010).

Given the perceived universality of human needs, the GLM presumably applies equally well to youth, but this possibility remains to be examined.

Several alternative explanations from the RNR viewpoint have been put forth in response to the GLM perspective's criticisms (Andrews et al., 2011; Ogloff & Davis, 2004). Overall, Andrews and colleagues (2011) responded that GLM proponents may have interpreted differently many of the central components of the RNR model, as therapeutic alliance and motivation are also seen as keys to success in their model (Andrews et al., 2011). Further, research does not appear to support the GLM's main tenet that leading better, more satisfying lives will result in a desistance from crime. Rather, it appears that it is desistance from crime that sparks a cascade of positive changes in other areas of the offender's life (Andrews et al., 2011). Additionally, contrary to the GLM's theoretical perspective, it is not uncommon for offenders to view criminal conduct as a source of much satisfaction (e.g., self-efficacy, material goods, creativity, knowledge; Ogloff & Davis, 2004).

Overall, the non-strength-related aspects of the GLM are essentially the RNR model. Specifically, the GLM's principle of case management and attention to risk factors considerably overlap with the RNR model's case management aspect and risk and need principles. Since much of the GLM fits into the responsivity principle of the RNR model, it would be premature empirically and theoretically to consider it a viable alternative to the robustly empirically-supported RNR model. Instead, it would be

preferable to improve on the current, evidence-based RNR model (Ogloff and Davis, 2004). For instance, the model would benefit from more research on specific responsivity factors (Andrews et al., 2011). Further, there is much to learn from the GLM's strength-based approach, and a better understanding of strengths may be a valuable asset in the promotion of offender rehabilitation (Andrews et al., 2011).

The Strength-Based Approach

As mentioned earlier, Andrews and colleagues (2007; 2010) have recommended that strengths become part of risk assessments. Their recommendation is in line with Seligman and Csikszentmihalyi's (2000) positive psychology movement, which calls upon mental health professionals to broaden their focus from identifying only pathology to promoting strengths in every individual. This perspective relies on the assumption that strengths are present in every human being and these strengths can be identified and built upon to increase well-being (Cox, 2008; Lagacé-Séguin & d'Entremont, 2010; Rawana, Norwood, & Whitley, 2011). The utilization of clients' strengths as problem-solving and self-development tools is posited to hold many therapeutic benefits, which include increased rapport, enhanced treatment planning (Guerra & Leaf, 2008; Tedeschi & Kilmer, 2005), and greater empowerment of clients and families (Rawana & Brownlee, 2009).

The strength-based approach has gained considerable attention from researchers and clinicians (e.g., Cox, 2006; Fleming, Catalano, Haggerty, & Abbott, 2010; Griffin, Beech, Print, Bradshaw, & Quayle, 2008; Lodewijks, de Ruiter, & Doreleijers, 2010;

Rennie & Dolan, 2010; Seligman, Steen, Park, & Peterson, 2005). Positive psychology and strength-based principles have been applied to address alcohol misuse in youth (Akhtar & Boniwell, 2010), youth violence (Tweed et al., 2011), and youth gangs (Bhatt, Tweed, & Dooley, 2010). Positive psychology may also deepen clinicians' understanding of mental health difficulties (Marques, Pais-Ribeiro, & Lopez, 2011; Norrish & Vella-Brodick, 2009) and academic achievement (Marques et al., 2011; Pajares, 2001). Findings from an evaluation study of a strength-based bullying prevention program suggest that identifying strengths is helpful in increasing children's self-confidence and engagement in their communities and schools (Rawana et al., 2011). Further, in a sample of youth receiving treatment for behavioural and emotional difficulties, the use of a strength-based assessment tool (i.e., the Behavioral and Emotional Rating Scale) was linked to significantly more positive outcomes than the usual deficit-based assessment protocol (Cox, 2006). However, these benefits were observed only when the therapist held highly strength-based attitudes and practices, which suggests once again that responsivity is crucial (Cox, 2006).

In light of the many benefits of strength-informed practice, the treatment literature often includes recommendations to build on client strengths, however, little information is provided concerning how to translate empirical evidence into real-world practice. This lack of clarity and guidance perhaps stems from the use of multiple definitions in the psychological literature; a unified definition of "strength" remains elusive (Andrews &

Bonta, 2010; Guerra & Leaf, 2008; Linley et al., 2007; Rawana & Brownlee, 2009; Tedeschi & Kilmer, 2005).

What's in a Name? The Definitional Issue of 'Strength'

To date, “strengths” in psychological research have been conceptualized in a variety of ways including resiliency factors, protective factors, or the absence of a risk. Some have adopted a dichotomous view in which a given factor can act only as a strength or only as a risk factor and related to that view is the notion that a strength is the absence of a risk (Ogloff & Davis, 2004). It is clear that a strength is not merely the absence of a risk; it adds something positive to an individual (Lodewijks et al., 2010). For instance, a youth who is actively committed to upholding the values of his or her family at home (e.g., respect, fulfilling responsibilities, good behaviour) exhibits a strength in this domain relative to a youth who simply does not act out physically or verbally in the home. This strength could be used to make other changes in the youth's life.

Consistent with this view, Stouthamer-Loeber and colleagues (1993) have instead trichotomized the concept of strengths. According to them, any factor can act as a neutral factor, a risk, or a strength for different individuals. The nature of a factor is determined based on its influence on a given outcome. For example, a youth's level of frustration tolerance can act as a risk factor when low, as it increases the likelihood of criminal behaviour. Frustration tolerance can also act as a strength when high, decreasing the chances of crime. Stouthamer-Loeber and colleagues (2002) examined the cumulative effect of risk and promotive factors on persistent serious delinquent behaviour in younger

and older adolescent boys. Unlike protective factors, the notion of promotive factor does not imply an interaction between positive and risk factors. Factors deemed promotive for the older sample included high accountability and satisfying relationship with caregivers. High accountability, trustworthiness, capacity for guilt, motivation for school, and a nondisadvantaged neighbourhood were found to have strong promotive effects for younger boys. Considering promotive and risk factors at once resulted in more accurate risk prediction than including risk only, as very few of the younger boys who had a primarily promotive score became persistent serious delinquents relative to youth with a primarily risk score, and youth in the older sample with a primarily promotive score (Stouthamer-Loeber et al., 2002). Overall, Stouthamer-Loeber and colleagues (2002) concluded that promotive and risk factors can cancel each other out with respect to future delinquency, but to a lesser extent in older adolescents. Andrews and Bonta (2010) maintain that they follow Stouthamer-Loeber's distinction in their definition of strengths within the RNR framework, however, as will be discussed later, their current definition of strength more closely resembles that of a protective factor.

Strengths labeled as protective factors are viewed as characteristics that moderate or mediate the influence of exposure to risk factors (Rutter, 1979). For instance, factors are protective when they are associated with reduced antisocial behaviour (Hoge, Andrews, & Leschied, 1996; Lodewijks et al., 2010). This is currently how strengths are conceptualized in the RNR model (moderating factors; Andrews & Bonta, 2010). More pervasively, however, strengths have also been construed as resiliency factors (Rawana &

Brownlee, 2009). In this context, strengths are believed to interact with risk factors in a youth and his or her ecology, in order to increase the youth's capacity to do well in spite of adverse experiences (Fergus & Zimmerman, 2005). The absence of resiliency factors (e.g., emotion regulation, ability to solve problems) is a forerunner to delinquency (Palermo, 2009). Rawana and Brownlee (2009) have suggested that the resiliency perspective, with its primary assumption of the presence of adversity and only partial emphasis on positive factors, may preclude clinicians from using a client's full set of strengths in treatment and assessment. The same can be said of protective factors, a term which implies the presence of something from which a young person requires protection.

Given the absence of a consensus surrounding the notion of strength, a broader definition in line with Rawana and Brownlee's (2010) conceptualization was favoured in the present thesis. Unlike protective factors and resilience, the definition of "strengths" in this dissertation does not imply the presence of risk or adversity. Further, a strength is viewed as an attribute distinct from the mere absence of a risk. In this work, strengths are conceptualized as characteristics (e.g., close friendships, support from religious or cultural community) and competencies (e.g., motivation, emotion regulation) valued both by the individual and society, in accordance with Rawana and Brownlee's (2010) definition. Strengths emerge from ordinary, daily life activities and are reflected in multiple aspects of an individual's life (e.g., well-being, spirituality, relationships, self-esteem, hope, prosocial behaviour; Rawana & Brownlee, 2010). In the context of the

current research, the focus will be on strengths as factors related to reduced chances of antisocial behaviour.

Strengths in a Forensic Context

Positive psychology has gained interest in the forensic arena. In a recent study, protective factors as measured by the Structured Assessment of Violence Risk in Youth predicted desistance from violent reoffending in a sample of justice-involved youth (Lodewijks et al., 2010). Specifically, strong social support and strong attachment to prosocial adults significantly predicted desistance from violent offending in youth, above and beyond risk level (Lodewijks et al., 2010). With respect to sexual recidivism, particular strengths (i.e., prosocial leisure interests, above-average intelligence, positive talents, positive attitude from significant adults in young person's life, competent emotional coping of significant adults in the young person's life, at least one emotional confidant, positive evaluations from work/education staff, and positive relationships with treatment staff) and risk factors also differentiated which young people would reoffend and which ones would not (Griffin et al., 2008). Hope was found to be predictive of future criminal behaviour in a sample of male and female Canadian inmates (Martin & Stermac, 2010) and one of the factors most related to life satisfaction in samples of American and Swiss non-offending adults (Peterson, Ruch, Beermann, Park, & Seligman, 2007). Protective factors of a social nature (e.g., emotional support, involvement in religious activities, spare time spent with loved ones) were significantly related to reduced violent reoffending in a large sample of male offenders being reintegrated in the community (Ullrich & Coid, 2011). The social

aspect of rural communities also had a protective effect not seen in urban youth (Nelson, Coleman, & Corcoran, 2010).

Regardless of particular strengths, however, the accumulation of positive factors appears to be most important in reducing involvement in delinquency and drug use in youth (Hartman, Turner, Daigle, Exum, & Cullen, 2009; Rennie & Dolan, 2010; Van der Laan, Veenstra, Bogaerts, Verhulst, & Ormel, 2010) and promoting successful reintegration in adults (Viljoen, Nicholls, Greaves, de Ruiter, & Brink, 2011). These findings suggest that protective factors and strengths do buffer risk factors to some extent, but do not entirely nullify the negative influence of these risk factors. Nevertheless, more research is needed to clarify the exact strengths that can be used to buffer risks in various developmental domains (Farmer, Farmer, & Brooks, 2010).

Andrews and Bonta (2010) clearly articulated that strengths are clinical principles and responsivity considerations within their RNR model. Their conviction that building on strengths will assist in building rapport and will help increase motivation led to the integration of strengths items in RNR-based assessment tools (Andrews & Bonta, 2010). The Youth Level of Service/Case Management Inventory (YLS/CMI; Hoge & Andrews, 2002) is a widely used risk assessment measure. As a measure rooted in theory, it has been adopted by clinicians, probation officers, and correctional staff throughout Canada, the United States, and Australia. The YLS/CMI is also one of the most well-researched risk assessment tools for youth (see Schmidt & Campbell, 2012). It produces an estimated risk level based on the identification of criminogenic needs in eight domains of

risk (e.g., criminal history, family circumstances, substance use). The YLS/CMI is also intended for use in case management. Although information about strengths is included in the measure, its manual offers no guidelines for the integration of strengths in the risk assessment or the court-report. The clinician is simply asked to check the ‘Strength box’ if a domain constitutes a strength for the youth, but the criteria necessary for a strength to be present are not described (Hoge & Andrews, 2002). Only two published studies, addressing strengths in an Australian adaptation of the YLS/CMI, were found (Hoge & Andrews, 1995). Thompson and Pope (2005) created a 3-item Major Strengths domain that concerned strengths at the individual (i.e., interpersonal skills), family (i.e., strong and positive parent-child relationship), and community (i.e., extra-familial support) levels. The reasons for selecting these specific strengths remain unclear. This new strength domain did not predict general recidivism in their sample of nearly 200 adolescents (Thompson & Pope, 2005). In a subsequent study, the same 3-item Assessment of Major Strengths domain independently predicted recidivism in a sample of 113 Australian justice-involved adolescents (Upperton & Thompson, 2007). However, these items were not entered in the calculation of risk (Upperton & Thompson, 2007). These inconclusive findings suggest that the YLS/CMI may not adequately assess youth strengths or that strengths are not strongly related to recidivism.

The first study of Chapter 2 has two objectives: 1) evaluating whether youth strengths, as measured by the YLS/CMI, are negatively and directly related to recidivism, and 2) examining the manner in which clinicians use information about strengths in their

risk assessments. Based on the limited prior research on this topic outlined above (i.e., Australian studies), it was expected that strengths as measured by the YLS/CMI would not significantly predict recidivism in the sample of delinquent adolescents. Similarly, in light of the minimal guidance that the YLS/CMI's manual provides regarding the clinical use of information about youth strengths, professionals were expected to use this information in diverse ways.

Considerable efforts were made to improve strength-related material in the second edition of the YLS/CMI (YLS/CMI 2.0; Hoge & Andrews, 2011). The measure's manual explicitly defines a strength as "an exceptionally positive factor that may moderate the impact of risk factors" (Hoge & Andrews, 2011, p. 55). It is also specified that the absence of a risk does not inevitably signify a domain is a strength. Examples of what clinicians should and should not consider to be strengths also supplement the description of each item to better guide clinicians (e.g., total abstinence from substances, several prosocial friends and acquaintances). Further, it is explicitly mentioned that strengths are used primarily for case management and are not entered in the risk prediction calculation.

Accordingly, in the second study of Chapter 2, the manner in which clinicians use information about strengths in their risk assessments was examined. Determining whether a change in strength-recording practice could be observed between the YLS/CMI and the YLS/CMI 2.0 was the second objective of this study, given the care and efforts Hoge and Andrews (2011) invested in improving strength-related material in the revised measure's manual. It was expected that clinicians would record a greater number of strengths on the

YLS/CMI 2.0 than they did on the YLS/CMI, in light of the more detailed instructions surrounding strengths and their use in the revised measure's manual.

In spite of advances made to include strengths in risk assessment tools, further research is needed to determine if and how strengths can increase the predictive ability of these measures (Andrews & Bonta, 2010; Pobanz, 2000; Viljoen et al., 2011). To date, information about strengths has been excluded from the calculation of risk to reoffend (e.g., Chapman et al., 2006; Meyers & Schmidt, 2008; Onifade et al., 2008; Viljoen et al., 2009). Researchers who have considered positive factors as predictors have reported mixed findings with respect to protective factors' ability to mitigate risk to reoffend violently or sexually (Dolan & Rennie, 2008; Griffin et al., 2008; Penney, Lee, & Moretti, 2010; Schmidt et al., 2011).

Using a different analytic strategy, Mowder and colleagues (2010) used cluster analysis to identify profiles in a sample of incarcerated youth. They identified four clusters of youth who differed in terms of areas of strengths (e.g., adaptability, self-efficacy, tolerance of differences), vulnerability factors (e.g., emotional reactivity), and demographic information (e.g., gender, age at incarceration, number of school credits earned). Severe rule-breaking behaviour in the month prior to participation in the study, not recidivism, was the outcome measure. Different implications for treatment and rehabilitation were drawn from each cluster composition, supporting the importance of identifying strengths to mitigate risk factors and, potentially, prevent recidivism or maladaptive behaviours.

Recently, Rawana and Brownlee (2010) created the Strengths Assessment Inventory-Youth Version (SAI-Y) specifically to measure justice-involved youth's strengths in a wider number of domains than does the commonly used Risk Need Assessment tool. Their ultimate aim in identifying delinquent adolescents' areas of strength was to use these strengths to enhance youth's engagement in positive activities, reduce the impact of, or exposure to, risks, and optimize the responsivity principle. The SAI-Y has yet to be used with a forensic sample specifically, but it has demonstrated good psychometric properties when used with a community sample of 572 youth ages 9 to 19 years (Rawana & Brownlee, 2010). It was also used to measure self-reported strengths among students who participated in an anti-bullying school-based program (Rawana et al., 2011). Relative to the YLS/CMI, the SAI-Y's manual provides clearer guidelines regarding how to use information about strengths clinically.

The SAI-Y was used to assess youth strengths in Chapter 3. Given Andrews and colleagues' (2001, 2007) recommendation to supplement risk assessments with measures of strengths, and the importance of using tools appropriate to the population and construct at hand, the reliability (internal consistency), criterion and construct validity of this measure were evaluated. Assessing the SAI-Y's psychometric properties provided essential information about the suitability of the measure for Canadian justice-involved adolescents. In light of Rawana and Brownlee's specific intention to develop a measure to assess the strengths of youth in conflict with the law, and earlier validations using

other samples, the SAI-Y was expected to provide a valid and reliable assessment of youth strengths in the present investigation.

References

- Akhtar, M., & Boniwell, I. (2010). Applying positive psychology to alcohol-misusing adolescents: A group intervention. *Groupwork*, 20, 6-31.
- American Psychological Association Presidential Task Force on Evidence-Based Practice. (2006). Evidence-based practice in psychology. *American Psychologist*, 61, 271-285.
- Andrews, D. A., & Bonta, J. (2006). *The psychology of criminal conduct* (4th ed.). Toronto: Lexis/Nexis.
- Andrews, D.A., & Bonta, J. (2010). Rehabilitating criminal justice policy and practice. *Psychology, Public Policy, and Law*, 16, 39-55.
- Andrews, D.A., Bonta, J., & Hoge, R.D. (1990). Classification for effective rehabilitation: Rediscovering psychology. *Criminal Justice and Behavior*, 17, 19-52.
- Andrews, D.A., Bonta, J., & Wormith, J.S. (2006). The recent past and near future of risk and/or need assessment. *Crime & Delinquency*, 52, 7-27.
- Andrews, D.A., Bonta, J., & Wormith, J.S. (2011). The Risk-Need-Responsivity (RNR) Model: Does adding the Good Lives Model contribute to effective crime prevention? *Criminal Justice and Behavior*, 38, 735-755.
- Andrews, D.A., & Dowden, C. (2007). The risk-need-responsivity model of assessment and human service in prevention and corrections: Crime-prevention

- jurisprudence. *Canadian Journal of Criminology and Criminal Justice*, 49, 439-464.
- Baker, A., & Hambridge, J. (2002). Motivational interviewing: Enhancing engagement in treatment for mental health problems. *Behaviour Change*, 19, 138-145.
- Bechtel, K., Lowenkamp, C.T., & Latessa, E. (2008). Assessing the risk of reoffending for juvenile offenders using the Youth Level of Service/Case Management Inventory. *Journal of Offender Rehabilitation*, 45, 85-108.
- Bhatt, G., Tweed, R., & Dooley, S. (2010). Strength-based approaches to youth gang prevention in B.C. A report prepared for victim services and crime prevention, Ministry of Public Safety and Solicitor General, in partnership with the National Crime Prevention Centre, Public Safety Canada. Retrieved May 8, 2012, from <http://www.pssg.gov.bc.ca/crimeprevention/publications/docs/gang-prevention-youth-strength-based.pdf>.
- Bonta, J. (1995). The responsivity principle and offender rehabilitation. *Forum on Corrections Research*, 7, 34-37.
- Carcach, C., & Leverett, S. (1999). *Recidivism among juvenile offenders: An analysis of times to reappearance in court*. Canberra, Australia: Australian Institute of Criminology Research and Public Policy Series No. 17.
- Chapman, J.F., Desai, R.A., Falzer, P.R., & Borum, R. (2006). Violence risk and race in a sample of youth in juvenile detention: The potential to reduce disproportionate minority confinement. *Youth Violence and Juvenile Justice*, 4, 170-184.

- Cox, K. (2008). Tools for building on youth strengths. *Reclaiming Children and youth*, 16, 19-24.
- Cox, K.F. (2006). Investigating the impact of strength-based assessment on youth with emotional or behavioural disorders. *Journal of Child and Family Studies*, 15, 287-301.
- Day, A., Casey, S., Ward, T., Howells, K., & Vess, J. (2010). *Transitions to Better Lives: Offender Readiness and Rehabilitation*. Portland, OR, U.S.: Willan Publishing.
- Day, A., & Howells, K. (2002). Psychological treatments for rehabilitating offenders: Evidence-based practice comes of age. *Australian Psychologist*, 37, 39-47.
- Dolan, M.C., & Rennie, C.E. (2008). The Structured Assessment of Violence Risk in Youth as a predictor of recidivism in a United Kingdom cohort of adolescent offenders with conduct disorder. *Psychological Assessment*, 20, 35-46.
- Dowden, C., & Andrews, D.A. (2000). Effective correctional treatment and violence reoffending: A meta-analysis. *Canadian Journal of Criminology*, October 2000, 449-467.
- Farmer, T.W., Farmer, E.M.Z., & Brooks, D.S. (2010). Recasting the ecological and developmental roots of intervention for students with emotional and behavior problems: The promise of strength-based perspectives. *Exceptionality*, 18, 53-57.
- Fergus, S., & Zimmerman, M.A. (2005). Adolescent resilience: A framework for understanding healthy development in the face of risk. *Annual Review of Public Health*, 26, 399-419. doi: 10.1146/annurev.publhealth.26.021304.144357

- Fleming, C.B., Catalano, R.F., Haggerty, K.P., & Abbott, R.D. (2010). Relationships between level and change in family, school, and peer factors during two periods of adolescence and problem behaviour at age 19. *Journal of Youth and Adolescence*, 39, 670-682.
- Ford, J.D., Chapman, J.F., Pearson, G., Borum, R., & Wolpaw, J.M. (2008). Psychometric status and clinical utility of the MAYSI-2 with girls and boys in juvenile detention. *Journal of Psychopathology and Behavioural Assessment*, 30, 87-99.
- Gendreau, P. (1996). Offender rehabilitation: What we know and what needs to be done. *Criminal Justice and Behavior*, 23, 144-161.
- Griffin, H.L., Beech, A., Print, B., Bradshaw, H., & Quayle, J. (2008). The development and initial testing of the AIM2 framework to assess risk and strengths in young people who sexually offend. *Journal of Sexual Aggression*, 14, 211-225.
- Guerra, N.G., & Leaf, C. (2008). Implementing treatment programs in community and institutional settings. In R.D. Hoge, N.G. Guerra, & P. Boxer (Eds.), *Treating the Juvenile Offender* (pp. 103-126). New York: The Guilford Press.
- Hanson, R.K., Bourgon, G., Helmus, L., & Hodgson, S. (2010). The principles of effective correctional treatment also apply to sexual offenders: A meta-analysis. *Criminal Justice and Behavior*, 36, 865-891.
- Hartman, J.L., Turner, M.G., Daigle, L.E., Exum, M.L., & Cullen, F.T. (2009). Exploring

- the gender differences in protective factors: Implications for understanding resiliency. *International Journal of Offender Therapy and Comparative Criminology*, 53, 249-277.
- Hoge, R. D., & Andrews, D. A. (2002). *Youth Level of Service/Case Management Inventory: YLS/CMI interview guide*. Toronto: Multi-Health Systems.
- Hoge, R. D., & Andrews, D. A. (2011). *Youth Level of Service/Case Management Inventory (2nd ed.): YLS/CMI 2.0 interview guide*. Toronto: Multi-Health Systems.
- Hoge, R.D., Andrews, D.A., & Leschied, A.W. (1996). An investigation of risk and protective factors in a sample of youthful offenders. *Journal of Child Psychiatry*, 37, 419-424. doi: 0021-9630(95)00150-6
- Howells, K., & Day, A. (2007). Readiness for treatment in high risk offenders with personality disorders. *Psychology, Crime & Law*, 13, 47-56.
- Hubbard, D.J. (2007). Getting the most out of correctional treatment: Testing the responsivity principle on and male female offenders. *Federal Probation*, 7, 2-8.
- Hubbard, D.J., & Pealer, J. (2009). The importance of responsivity factors in predicting reductions in antisocial attitudes and cognitive distortions among adult male offenders. *The Prison Journal*, 89, 79-98.
- Lagacé-Séguin, D.G., & d'Entremont, M.-R. (2010). A scientific exploration of positive psychology in adolescence: The role of hope as a buffer against the influences of psychological negativities. *International Journal of Adolescence and Youth*, 16, 69-95.

- Linley, P.A., Maltby, J., Wood, A.M., Joseph, S., Harrington, S., Peterson, C., Park, N., & Seligman, M.E.P. (2007). Character strengths in the United Kingdom: The VIA inventory of strengths. *Personality and Individual Differences*, 43, 341-351.
- Lodewijks, H.P.B., de Ruiter, C., & Doreleijers, T.A.H. (2010). The impact of protective factors in desistance from violent reoffending : A study in three samples of adolescent offenders. *Journal of Interpersonal Violence*, 25, 568-587.
- Martin, K., & Stermac, L. (2010). Measuring hope: Is hope related to criminal behaviour in offenders? *International Journal of Offender Therapy and Comparative Criminology*, 54, 693-705.
- Marques, S.C., Pais-Ribeiro, J.L., & Lopez, S.J. (2011). The role of positive psychology constructs in predicting mental health and academic achievement in children and adolescents: A two-year longitudinal study. *Journal of Happiness Studies*, 12, 1049-1062.
- Maslow, A.H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370–396.
- McMurrin, M., & Ward, T. (2004). Motivating offenders to change in therapy: An organizing framework. *Legal and Criminological Psychology*, 9, 295-311.
- Meyers, J.R., & Schmidt, F. (2008). Predictive validity of the Structured Assessment for Violence Risk in Youth (SAVRY) with juvenile offenders. *Criminal Justice and Behavior*, 35, 344-355.

- Milligan, S. (2010). Youth court statistics 2008/2009. *Juristat: Canadian Centre for Justice Statistics*, 30, 1-37.
- Mowder, M.H., Cummings, J.A., & McKinney, R. (2010). Resiliency scales for children and adolescents: Profiles of juvenile offenders. *Journal of Psychoeducational Assessment*, 28, 326-337.
- Mullen, P.E. (2000). Forensic mental health. *British Journal of Psychiatry*, 176, 307-311.
- Nelson, D.M., Coleman, D., & Corcoran, K. (2010). Emotional and behaviour problems in urban and rural adjudicated males: Differences in risk and protective factors. *Victims & Offenders*, 5, 120-129.
- Norrish, J.M., & Vella-Brodrick, D.A. (2009). Positive psychology and adolescents: Where are we now? Where to from here? *Australian Psychologist*, 44, 270-278.
- Ogloff, J.R.P., & Davis, M.R. (2004). Advances in offender assessment and rehabilitation: Contributions of the risk-needs-responsivity approach. *Psychology, Crime, & Law*, 10, 229-242.
- Onifade, E., Davidson, W., Campbell, C., Turke, G., Malinowski, J., & Turner, K. (2008). Predicting recidivism in probationers with the Youth Level of Service Case Management Inventory (YLS/CMI). *Criminal Justice and Behavior*, 35, 474-483.
- Pajares, F. (2001). Toward a positive psychology of academic motivation. *The Journal of Educational Research*, 95, 27-35.

- Palermo, G.B. (2009). Delinquency: Risks and protective factors. *International Journal of Offender Therapy and Comparative Criminology*, 53, 247-248.
- Penney, S.R., Lee, Z., & Moretti, M.M. (2010). Gender differences in risk factors for violence: An examination of the predictive validity of the Structured Assessment of Violence Risk in Youth. *Aggressive Behavior*, 36, 390-404.
- Peterson, C., Ruch, W., Beermann, U., Park, N., & Seligman, M.E.P. (2007). Strengths of character, orientations to happiness, and life satisfaction. *The Journal of Positive Psychology*, 2, 149-156.
- Porter, L., & Calverley, D. (2011). Trends in the use of remand in Canada. *Juristat: Canadian Centre for Justice Statistics*, 31, 1-28.
- Pobanz, M.S. (2000). Using protective factors to enhance the prediction of negative short-term outcomes of first-time juvenile offenders. *Dissertation Abstracts International*, 62(5-A), 1948. Retrieved May 2, 2012, from Dissertations and Theses database.
- Rawana, E., & Brownlee, K. (2009). Making the possible probable: A strength-based assessment and intervention framework for clinical work with parents, children, and adolescents. *Family Services*, 90, 255-260.
- Rawana, E.P., & Brownlee, K. (2010). *Strengths assessment inventory: Manual*. Centre of Excellence for Children & Adolescents with Special Needs: Lakehead University.

- Rawana, J.S., Norwood, S.J., & Whitley, J. (2011). A mixed-method evaluation of a strength-based bullying prevention program. *Canadian Journal of School Psychology, 26*, 283-300.
- Rennie, C.E., & Dolan, M.C. (2010). The significance of protective factors in the assessment of risk. *Criminal Behaviour and Mental Health, 20*, 8-22.
- Robertson, P., Barnao, M., & Ward, T. (2011). Rehabilitation frameworks in forensic mental health. *Aggression and Violent Behavior, 16*, 472-484.
- Rutter, M. (1979). Protective factors in children's responses to stress and disadvantage. In M.W. Kent & J.E. Rolf (Eds.), *Primary Prevention of Psychopathology: Social Competence in Children* (Vol. 3). Hanover, NH: University Press of New England.
- Savoie, J. (2007). Youth self-reported delinquency, Toronto, 2006. *Juristat: Canadian Centre for Justice Statistics, 27*, 1-19.
- Schmidt, F., & Cambell, M.A. (2012). Juvenile risk assessment. In R.J.R. Levesque (Ed.), *Encyclopedia of Adolescence* (pp. 1519-1527). New York: Springer. Doi: 10.1007/978-1-4419-1695-2
- Schmidt, F., Campbell, M.A., & Houlding, C. (2011). Comparative analyses of the YLS/CMI, SAVRY, and PCL:YV in adolescent offenders: A 10-year follow-up into adulthood. *Youth Violence and Juvenile Justice, 9*, 23-42.
- Schwalbe, C.S. (2008). A meta-analysis of juvenile justice risk assessment instruments: Predictive validity by gender. *Criminal Justice and Behavior, 35*, 1367-1381.

- Seligman, M.E.P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55, 5-14.
- Seligman, M.E.P., & Steen, T.A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist*, 60, 410-421.
- Skilling, T., & Sorge, G.B. (2013). Measuring antisocial values and attitudes in justice-involved youth: Evaluating the psychometric properties of the Pride in Delinquency and Criminal Sentiments Scale-Modified. Submitted to *Criminal Justice and Behavior*.
- Stouthamer-Loeber, M., Loeber, R., Farrington, D.P., Zhang, Q., van Kammen, W., & Maguin, E. (1993). The double edge of protective and risk factors for delinquency: Interrelations and developmental patterns. *Development and Psychopathology*, 5, 683-701.
- Stouthamer-Loeber, M., Loeber, R., Wei, E., Farrington, D.P., & Wikstrom, P-O., H. (2002). Risk and promotive effects in the explanation of persistent serious delinquency in boys. *Journal of Consulting and Clinical Psychology*, 70, 111-123. doi: 10.1037//0022-006X.70.1.111
- Tedeschi, R.G., & Kilmer, R.P. (2005). Assessing strengths, resilience, and growth to guide clinical interventions. *Professional Psychology Research and Practice*, 36, 230-237. doi 10.1037/0735-7028.36.3.230
- Thompson, A.P., & Pope, Z. (2005). Assessing juvenile offenders: Preliminary data for

- the Australian adaptation of the youth level of service/case management inventory (Hoge & Andrews, 1995). *Australian Psychologist*, 40, 207-214.
- Tweed, R.G., Bhatt, G., Dooley, S., Spindler, A., Douglas, K.S., & Viljoen, J.L. (2011). Youth violence and positive psychology: Research potential through integration. *Canadian Psychology*, 52, 111-121.
- Ullrich, S., & Coid, J. (2011). Protective factors for violence among released prisoners—effects over time and interactions with static risk. *Journal of Consulting and Clinical Psychology*, 79, 381-390.
- Upperton, R.A., & Thompson, A.P. (2007). Predicting juvenile offender recidivism: Risk-need assessment and juvenile justice officers. *Psychiatry, Psychology and Law*, 14, 138-146.
- Van der Laan, A.M., Veenstra, R., Bogaerts, S., Verhulst, F.C., & Ormel, J. (2010). Serious, minor, and non-delinquents in early adolescence: The impact of cumulative risks and promotive factors: The TRAILS study. *Journal of Abnormal Child Psychology*, 38, 339-351.
- Vieira, T.A., Skilling, T.A., & Peterson-Badali, M. (2009). Matching court-ordered services with treatment needs: Predicting treatment success with young offenders. *Criminal Justice and Behavior*, 36, 385-401.
- Viljoen, S., Nicholls, T., Greaves, C., de Ruiter, C., & Brink, J. (2011). Resilience and successful community reintegration among female forensic psychiatric patients: A preliminary investigation. *Behavioural Sciences and the Law*, 29, 752-770.

- Viljoen, J.L., Elkovitch, N., Scalora, M.J., & Ullman, D. (2009). Assessment of reoffence risk in adolescents who have committed sexual offences: Predictive validity of the ERASOR, PCL:YV, YLS/CMI, and Static-99. *Criminal Justice and Behavior*, 36, 981-1000.
- Ward, T., & Gannon, T.A. (2006). Rehabilitation, etiology, and self-regulation: The comprehensive good lives model of treatment for sexual offenders. *Aggression and Violent Behavior*, 11, 77-94.
- Ward, T., Melser, J., & Yates, P.M. (2007). Reconstructing the risk-need-responsivity model: A theoretical elaboration and evaluation. *Aggression and Violent Behavior*, 12, 208-228.
- Watt, B., Howells, K., & Delfabbro, P. (2004). Juvenile recidivism: Criminal propensity, social control and social learning theories. *Psychiatry, Psychology, and Law*, 11, 141-153.
- Wormith, J.S., & Olver, M.E. (2002). Offender treatment attrition and its relationship with risk, responsivity, and recidivism. *Criminal Justice and Behavior*, 29, 447-471.

CHAPTER 2

**EXAMINING THE APPROPRIATENESS AND CLINICAL USE OF THE
YLS/CMI AND YLS/CMI 2.0 AS MEASURES OF YOUTH STRENGTHS**

Abstract

Existing evidence concerning the role of youth strengths as responsivity considerations within the Risk-Need-Responsivity (RNR) model of offender rehabilitation is unclear. In two current studies designed to build on this limited body of research, the role of strengths in the prediction of risk was evaluated and the manner in which this information was used in clinical practice was examined. In Study 1, the Youth Level of Service/Case Management Inventory (YLS/CMI), an RNR-based tool, of 279 justice-involved youth who were seen for court-ordered assessments at a large Canadian mental health centre between 2001 and 2008 were reviewed. Next, the YLS/CMI 2.0 of 132 adolescents assessed in the same context in 2011-2012 were examined in Study 2.

As expected, strengths did not predict recidivism at 1 to 8 years follow-up in Study 1.² Similarly, the hypothesis that clinicians use information about youth strengths in diverse ways was supported. Clinicians noted few strengths in reports and even fewer on the tools. Approximately half of strengths mentioned in reports fell beyond the scope of the RNR-based tools. A review of 50 court reports per study revealed that clinicians typically noted in reports the strengths they identified on the risk prediction tools, with the exception of strengths in the family and personality/behaviour domains, which were mentioned more often in reports than identified on the YLS/CMI 2.0. Finally, they continued to view strengths primarily as the absence of a risk on the YLS/CMI 2.0, in spite of the explicit instructions to this effect in the updated manual.

² Regressions were not conducted in Study 2 due to insufficient recidivism data.

These findings suggest that neither version of the YLS/CMI is a sufficiently comprehensive measure of youth strengths or possibly, that clinicians are not using these measures as intended, and reinforce the need for a unified operationalization of the strength construct. The role of strengths in rehabilitation remains to be determined. Limitations are presented and suggestions for future research described.

Introduction

The repercussions of criminal behaviour for its targets (e.g., emotional, psychological), society (e.g., financial; Department of Justice, 2009), and the youth who commit it (e.g., stigma, limitations on freedom) are considerable. Preventing offending behaviour and recidivism is therefore of outmost importance. Relative to punitive efforts (e.g., incarceration), rehabilitation efforts have proven to be more effective in breaking the cycle of juvenile delinquency (Andrews & Bonta, 2010a; see Day & Howells, 2002; Dowden & Andrews, 2000; see Gendreau, 1996). Accurately assessing the risk to reoffend of delinquent adolescents is essential not only to protect the public but also to guide treatment and, in turn, promote rehabilitation.

Currently, the Risk-Need-Responsivity (RNR) model is the approach of choice to promote offender rehabilitation in juveniles and adults (Andrews, Bonta, & Hoge, 1990; Andrews & Bonta, 2010b). As its name indicates, the three core principles of the RNR approach are risk, criminogenic need, and responsivity. The *risk principle* does not pertain to specific risk factors (see need principle) but, rather, dictates that individuals at higher risk should receive the most intensive forms of treatment. Next, the *need principle*

holds that an individual's criminogenic needs (e.g., procriminal attitudes, underachievement in school, substance abuse) be the primary treatment targets. Finally, the *responsivity principle* involves the matching of treatment delivery mode to the learning styles, strengths, and other characteristics of the offender (Andrews et al., 1990). Responsivity can be general or specific. General specificity refers to the broad characteristics of an intervention that promote rehabilitation (e.g., cognitive-behavioural modality; Andrews & Bonta, 2010b). Specific responsivity considerations are individual characteristics of the offender (e.g., verbal intelligence, maturity, anxiety; Andrews & Bonta, 2010b) that indirectly influence the likelihood of recidivism by facilitating or hindering intervention success. These specific responsivity factors should be matched to treatment delivery in order to promote a positive response to treatment (Andrews & Bonta, 2010b). In order for individuals to stop offending, research shows that their criminogenic risks (e.g., no prosocial peers) must be addressed and more importantly, their treatment needs (e.g., poor social skills, psychopathology) must be met (Vieira, Skilling, & Peterson-Badali, 2009). Relative to the principles of risk and need, responsivity is the least developed principle and research concerning this principle has yielded inconclusive results (e.g., Hubbard, 2007; Vieira et al., 2009). Nevertheless, research to date shows that adherence to the RNR principles in general, in custodial and community settings, is associated with a reduction in recidivism (Andrews & Bonta, 2010a; Dowden & Andrews, 2000; Hanson, Bourgon, Helmus, & Hodgson, 2010).

In a forensic context, evidence-based practice thus entails assessing risk, needs, and responsivity considerations, in accordance with the RNR model. More generally, it is good practice to assess personal strengths in comprehensive developmental assessments (AACAP, 1997). Andrews and colleagues (Andrews, Bonta, & Wormith, 2006; Andrews & Dowden, 2007) have therefore recommended that personal strengths be considered alongside the three core principles in order to promote rehabilitation. Integrating strengths in risk assessments answers the positive psychology movement's call for professionals to identify strengths as well as deficits in order to obtain a balanced view of every individual (Seligman and Csikszentmihalyi, 2000).

The important role of strengths in reducing antisocial behaviour has been demonstrated in a variety of ways. For instance, Mowder, Cummings, and McKinney (2010) found that four profiles characterized their sample of detained youth. Clusters differed with respect to domains of strengths (e.g., adaptability, self-efficacy, tolerance of differences), vulnerability factors (e.g., emotional reactivity), and demographic information (e.g., gender, age at incarceration, number of school credits earned). They examined the link between cluster membership and severe rule-breaking behaviour in the month prior to participation in research. Each cluster composition carried different implications for treatment and rehabilitation, which highlights the potential of strengths to mitigate risk factors and, possibly, prevent reoffending (Mowder et al., 2010).

Further, related research using non-RNR-based measures indicates that protective factors of a social nature (e.g., social support, attachment to prosocial adults, involvement

in religious activities, emotional support) predict desistance from violent reoffending in a sample of justice-involved youth (Lodewijks, de Ruiter, & Doreleijers, 2010) and male offenders being reintegrated into society (Ullrich & Coid, 2011). Regardless of the exact nature of strengths, however, the accumulation of positive factors appears to be most important in reducing involvement in delinquency and drug use in youth (Hartman, Turner, Daigle, Exum, & Cullen, 2009; Rennie & Dolan, 2010; Van der Laan, Veenstra, Bogaerts, Verhulst, & Ormel, 2010) and promoting successful reintegration in adults (Viljoen, Nicholls, Greaves, de Ruiter, & Brink, 2011). Given the many therapeutic benefits associated with strength-informed practice (Guerra & Leaf, 2008; Rawana & Brownlee, 2009; Tedeschi & Kilmer, 2005), the intervention literature often includes recommendations to build on client strengths. However, little information is provided concerning how to translate empirical evidence into real-world practice.

Similarly, the literature offers no consensus regarding how youth strengths should be defined and measured (e.g., resilience, protective factors, absence of a risk). Although broader definitions of strengths have been proposed (e.g., Rawana & Brownlee, 2009), Andrews and colleagues perceive strengths as “characteristics of people and their circumstances that are associated with reduced chances of criminal activity” (Andrews & Bonta, 2010b, p. 22). Within the RNR framework, strengths are construed as important clinical principles. They are specific responsivity considerations that moderate the relationship between criminogenic needs and recidivism (Andrews & Bonta, 2010b; Howells

& Day, 2007). Additionally, it is proposed that strengths may directly increase the precision of risk estimates (Andrews & Bonta, 2010b).

Strength items have been added to risk assessment tools but information about strengths has generally been excluded from the calculation of risk to reoffend (e.g., Chapman, Desai, Falzer, & Borum, 2006; Meyers & Schmidt, 2008; Onifade et al., 2008; Viljoen, Elkovitch, Scalora, & Ullman, 2009). Researchers who have included protective factors have reported mixed findings with respect to these positive attributes' ability to mitigate risk to reoffend violently or sexually (Dolan & Rennie, 2008; Griffin, Beech, Print, Bradshaw, & Quayle, 2008; Penney, Lee, & Moretti, 2010; Schmidt, Campbell, & Houlding, 2011).

Only two published works evaluating the utility of RNR-based tools as measures of strengths were found. Both studies addressed an Australian adaptation of the Youth Level of Service/Case Management Inventory (Hoge & Andrews, 2002) and yielded equivocal results. Thompson and Pope (2005) created a Major Strengths domain based on an earlier version of the YLS/CMI, which did not predict reoffending. Two years later, Upperton and Thompson (2007) used the same 3-item Major Strengths Domain and it significantly predicted recidivism in a sample of adolescents in conflict with the law. Strength items were entered in the regression model but were omitted from the risk calculation (Upperton & Thompson, 2007). The discrepant findings and inconsistent use of information about strengths in the two studies indicate that the YLS/CMI may not adequately measure youth strengths. Considerable efforts were made to improve strength-

related material in the second edition of the YLS/CMI (YLS/CMI 2.0; Hoge & Andrews, 2011), which remains to be examined empirically. Further research is also needed to determine if and how strengths can increase the predictive ability of actuarial risk assessment tools (Andrews & Bonta, 2010b; Pobanz, 2000; Viljoen et al., 2011).

Objectives of the Present Studies

The objectives of the present research were twofold. The first aim was to clarify the importance of youth strengths in the prediction of risk using RNR-based assessment tools. Second, the degree to which strengths are currently integrated in risk assessments conducted with justice-involved youth was evaluated. In Study 1, the following questions were answered: 1) Do youth strengths, as measured by the YLS/CMI, directly predict recidivism? and 2) How do clinicians use information about strengths in their risk assessments? Based on limited prior research on this topic using RNR-based tools specifically, it was expected that strengths would not significantly predict recidivism in this sample. The YLS/CMI was designed primarily as a measure of risk, and strengths were added following a later recommendation. Thus, the strength items may not have been as well articulated as Hoge and Andrews would have liked them to be. Therefore, the absence of a significant relationship between strengths and recidivism in Study 1 could indicate measurement error. Alternatively, low predictive ability could reflect that strengths are responsivity factors but not independent predictors of recidivism, as Andrews and colleagues (2010b) had suggested.

An exact replication of Study 1 with the YLS/CMI 2.0 could not be conducted because recidivism data were only available for a small subsample of participants. Thus, the predictive power of strengths on the YLS/CMI 2.0 could not be assessed. Nevertheless, the following questions were answered: 1) How do clinicians use information about strengths in their risk assessments? and 2) Was there a change in the use of strength information between the YLS/CMI and the YLS/CMI 2.0? It was hypothesized that clinicians would record a greater number of strengths on the YLS/CMI 2.0 than they did on the YLS/CMI, in light of the more detailed instructions surrounding strengths and their use in the revised measure's manual.

Study 1

Participants

The clinical files of 279 justice-involved youth ($n_{female} = 48$; 17.20%) aged 12 to 20 ($M = 15.81$; $SD = 1.55$) were reviewed. All but 10 adolescents were between 13 and 18. The sample consisted of youth who were seen for a court-ordered assessment in the Child, Youth, and Family Program at the Centre for Addiction and Mental Health (CAMH) between March 2001 and February 2008. The assessments were ordered by a youth court judge for assistance in sentencing and were conducted by qualified clinicians within a multidisciplinary team (i.e., a psychiatrist, a psychologist, and a social worker and their trainees). Prior to the start of the clinical assessment, youth and their parents were informed about the study and consent obtained for the assessment information to also be used for research purposes; 86% of youth consented to have their assessment data

used for research purposes. The study was ethically approved by the agency's institutional review board prior to commencement.

A majority of participants identified as being of African or Caribbean descent (31.2%) or Caucasian (29.7%), while a smaller percentage identified as Hispanic (13.6%), East Indian (10%), as belonging to another ethnic group (8.6%), or Asian (5.7%). Information about ethnicity was missing for three participants. Criminal activity was examined and revealed that 99 (36%) of these adolescents were first time offenders ($n_{missing} = 115$). Youth were referred for an assessment in connection with offenses varying in nature, including nonviolent (i.e., theft, drug-related offenses, break and enter; 19%), violent but not sexual (i.e., murder, attempted murder, assault; 51%), or sexual (i.e., sexual assault, invitation to touching; 24%) offenses ($n_{missing} = 16$).

Measures

Risk level and youth strengths. The Youth Level of Service/Case Management Inventory (YLS/CMI; Hoge & Andrews, 2002; Appendix A) is a standardized instrument based on the RNR model. The YLS/CMI is a 42-item checklist of risk factors and criminogenic needs in eight domains: History of criminal conduct; family circumstances and parenting; current school or employment problems; criminal peer affiliations; alcohol or drug problems; leisure and recreational activities; personality and behaviour; and antisocial attitudes and orientation. Each item on the YLS/CMI is coded as either present or absent. A Total risk score ranging from 0 to 42 is obtained by adding the items endorsed across all domains. The Total risk score is associated with a norm-based

qualitative category of risk to reoffend (i.e., low, moderate, high, very high). The YLS/CMI has well established predictive validity and predicts short- and long-term reoffending in juvenile populations (Bechtel et al., 2008; Olver, Stockdale, & Wong, 2012; Onifade et al., 2008; Viljoen et al., 2009). In the current sample, the reliability of the Total risk score was good, $KR-20 = .86$ (Kuder & Richardson, 1937).

With the exception of history of criminal conduct, all domains of criminogenic need include a strength box to indicate if a domain constitutes a strength for the young person. A total strength score (YLS Total Strength) ranging from 0 to 7 was created by summing the strength boxes raters checked off on the YLS/CMI. Much evidence supports the YLS/CMI's psychometric properties with justice-involved samples (Schmidt, Hoge, & Gomes, 2005; Viljoen et al., 2009). Findings regarding the psychometric properties of the strength items of the YLS/CMI could not be located in the literature or in the measure's manual. In the current sample, the reliability of the strength index was acceptable, $KR-20 = .77$.

Strengths noted in reports. A detailed coding scheme was created for the qualitative aspect of this study to ensure adequate inter-rater agreement in reports coding (Appendix B). Based on the YLS/CMI categories of strength, the importance of building on strengths in treatment, the utility of commenting on intellectual strengths in forensic reports (Hoge, 2012), and research regarding the conceptualization of strengths (i.e., absence of a risk, relative strengths), 16 strengths-related domains were included. First, a

statement was coded as a strength when it was identified as such in the report (e.g., “He is an intelligent boy, which is an area of strength for this youth”).

Second, a strength was coded as “relative” if the clinician qualified the youth’s attribute using this adjective (e.g., “Areas identified as relative strengths included her likeable personality and motivation for change”). A relative strength suggests the asset may not be considered a strength for all youth, but rather, it is a positive aspect for this youth relative to his/her other domains of functioning. Using this qualifier emphasizes the unique needs profile of the youth. A strength described as “relative” also suggests that the domain or feature described does not constitute a strength in the full sense of the word.

Third, raters coded for the presence of a strengths section, fourth, whether a strength was conceptualized as the absence of a risk (e.g., “Areas identified as strengths included *lack of* psychopathic traits...”), and, fifth, whether it was explicitly suggested to build on the youth’s strengths in the recommendations section of the report.

Strength domains six to 12 reflected the YLS/CMI strength domains. Domains 13 and 14 referred to other strengths (i.e., falling beyond the scope of the YLS/CMI strengths) mentioned in the context of the YLS/CMI results or elsewhere in the report, respectively. Finally, a strength was classified as ‘cognitive’ based on cognitive testing conducted in the current assessment, while it was designated as ‘intellectual’ when the clinician reported that the youth’s intelligence in general constituted a strength irrespective of whether formal testing had been conducted.

Procedure

Youths' clinical files are housed at a large mental health facility in a Canadian urban centre. These files include all data compiled during the assessment, including findings from semi-structured interviews with youth, caregivers, and relevant collateral sources, standardized psychological questionnaires, and often, psychological tests. Clinicians and their supervised trainees used this information and their clinical judgment to code the YLS/CMI and make informed recommendations to aid the Court. The strengths that clinicians identified as present on the YLS/CMI for each youth were recorded, along with overall estimated risk scores.

Recidivism was defined as any new conviction recorded between the date of the youth's assessment and the follow-up cut-off date, set at January 25, 2010. The follow-up period ranged from approximately 1 year to 8 years, depending on when the youth was assessed. Recidivism data were obtained from the Royal Canadian Mounted Police Criminal Record and Information Services.

Next, a qualitative analysis was performed to determine the degree of overlap between the domains of strength identified on the YLS/CMI and those conveyed in the reports. The degree of overlap served as a measure of the comprehensiveness of the YLS/CMI as a strengths measure, and the patterns of use of this tool in clinical practice. Information about the nature and number of youth strengths taken from a subsample of 50 anonymised clinical reports ($n_{female} = 5$; 10%) were coded as either present or absent. Reports were chosen largely based on availability, with care taken to ensure a relatively

even distribution across professional disciplines and time period, from 2004 to 2009. To be selected, a report had to include comments about a youth's YLS/CMI results. Although it was not required that strengths be mentioned in the report, the version of the YLS/CMI used had to have strength boxes. Inter-rater agreement was good ($\kappa = .78$) and was calculated based on 15 reports. A graduate student independent from the study acted as the second rater.

Results

Risk Level and Frequency of Recidivism

Youths' YLS/CMI total scores ranged from 0 to 38, with a mean score of 17.71 ($SD = 9.50$), indicating that, on average, the participants in the total sample were assessed at moderate risk for recidivism at the time of their court-ordered assessments (Hoge & Andrews, 2002). Categorically, 22.9% ($n = 64$) of the youth in the total sample were deemed low risk for reoffense, 41.9% ($n = 117$) of the youth were deemed moderate risk, 31.9% ($n = 89$) of youth were deemed high risk, and 3.2% ($n = 9$) of the youth were deemed very high risk.

The cut-off date for calculating reoffense was January 25, 2010. Thus, depending on the dates of their assessments, the participants' follow-up periods in which there was an opportunity to reoffend ranged from 0.36 to 100.67 months, with a mean of 36.61 months ($SD = 27.59$ months). The recidivism rate for the total sample ($N = 279$) was 49.5% ($n = 138$), with a mean time to first reoffense of 16.77 months (range = 0.36–73.37 months; $SD = 13.98$ months).

In the total sample, 61 youth were assessed by a psychologist or psychology student or intern, 110 by a psychiatrist or psychiatry resident, 82 by a social worker or social work student, and 26 by a clinician in one of those three disciplines but not exactly known.

Relationship Between Risk Level, Number of Strengths, and Recidivism

Table 1 summarizes the nature and frequency of identified strengths. Overall, few strengths were recorded on the YLS/CMI ($n = 210$; 10.76% of the possible number of strengths that could have been recorded for the entire sample). Psychiatry recorded significantly fewer strengths on the YLS/CMI than did the other disciplines, $F(3, 278) = 18.55, p < .001, \eta^2 = .17$. Total strengths scores for the entire sample ranged from 0 to 7 ($M = .75$; $Mdn = 0$). The mean total strengths score of those who reoffended was .53 ($SD = 1.14$). Youth who did not reoffend had a greater number of strengths, on average ($M = .97$; $SD = 1.58$). Although the effect size was small ($r = -.14$), youth who did not reoffend had a significantly greater number of strengths than did their reoffending counterparts ($U = 8.33, p < .05$). A majority of strengths (79.05% of total number of strengths) were identified when no risk factors had been noted in a given domain ($n = 166$). Consequently, youth with more strengths were rated as being lower risk relative to youth with fewer strengths.

Correlations were calculated to examine the relationships between youth's risk level (YLS/CMI Total score) at the time of their assessments, total number of strengths recorded, and recidivism. There was a significant ($p < .01$) moderate correlation

Table 1

Frequency and Nature of Strengths (Proportion of Total Possible Strengths) Identified, By Discipline

Variable	Discipline			
	Psychology ^a	Psychiatry ^b	Social Work ^c	Unknown ^d
Total number of strengths identified	72 (16.86)	6 (.78)***	107 (18.64)	25 (13.74)
Mean number of strengths identified	1.18	.05	1.30	.96
Number of strengths as the absence of a risk	51 (70.83)	5 (83.33)	86 (80.37)	24 (96.00)

^a $n = 61$. ^b $n = 110$. ^c $n = 82$. ^d $n = 26$.

*** $p < .001$

($r = -.51$) between risk level and number of strengths. As expected, risk level was significantly correlated with recidivism ($r = .32$; $p < .01$). Total number of strengths was also significantly related to recidivism in the expected direction ($r = -.16$; $p < .01$). It is therefore possible that strengths independently account for variance in recidivism, with a greater number of strengths related to lower likelihood of recidivism, however, this finding may be better explained by the way in which strengths were recorded on the YLS/CMI. Given the trend of recording strengths as the absence of risk noted above, the finding that strengths have a significant relationship with recidivism in the direction opposite to the total risk score is not surprising. In order to evaluate the potential for strengths to uniquely predict reoffending (independently of risk information), a logistic regression was performed.

Strengths and Risk as Predictors of Recidivism

No evidence of collinearity emerged from a review of tolerance values and Variance Inflation Factors (Field, 2005). A logistic regression was thus conducted as planned, with recidivism as the outcome variable and YLS/CMI strength score and total risk score as predictors. The regression was significant, Wald's $\chi^2(2) = 30.36, p < .001$; YLS/CMI total score, $B = .07, \chi^2(1) = 20.84, p < .001$, emerged as the only significant individual predictor of recidivism. The odds ratio, or $\exp(B)$, whose value is greater than 1 indicates that total risk score increases the likelihood of recidivism, rather than decreasing or leaving it unaffected (see Table 2). Further, Table 2 shows that for each point increase on the YLS/CMI risk score, youth were 7.0% more likely to reoffend.

A review of casewise diagnostics indicated that no case exerted undue influence or leverage on the model. Goodness of fit statistics indicate that the model accounted only for 10 (Cox & Snell) to 14% (Nagelkerke) of the variance in recidivism. It therefore leaves much of the variance unexplained. Nevertheless, Receiver Operating Characteristic (ROC) curve analysis yielded a significant Area Under the Curve (AUC) of .69 ($CI = .63-.75$) for the model, indicating a moderate effect of total risk score.

How Do Clinicians Use Information about Strengths in their Practice?

In the 50 reports coded, a total of 371 strengths were identified. Notations of strength ranged from 0 to 27 ($M = 6.00; SD = 6.09$). Mean number of strengths identified did not significantly differ across disciplines, $H(2) = .94, p = .62$. Clinicians described

Table 2

YLS/CMI Total Strength Score And Total Risk Score As Predictors of Recidivism

Variable	Recidivism					95% CI	
	β	$SE\beta$	Wald's χ^2	df	Exp(B)	LL	UL
Total Risk score	.07***	.02	20.84	1	1.08	1.04	1.11
Total Strength score	.01	.11	.01	1	1.01	.81	1.25
Constant	-1.35***	.36	14.09	1	.26		
Overall model			30.36	2			

Note. CI = confidence interval; LL = lower limit; UL = upper limit. The model was also run with the interaction term, which was not statistically significant.

*** $p < .001$

most strengths (60.38%; $n = 224$) as “relative.” As these are not strengths in the full sense of the word, they were excluded from the analysis of correspondence. Next, the degree of correspondence between the strengths noted on the YLS/CMI and the YLS/CMI-related full strengths highlighted in the reports ($n = 61$) were calculated using the McNemar Test for matched categorical data (McNemar, 1947). As the McNemar test compares two categorical variables at a time, the YLS-related strengths domains from reports (i.e., family domain strengths) were re-coded as 0 (not present) or 1 (present). None of the McNemar Tests were statistically significant, which suggests that when clinicians identified a strength domain on the YLS/CMI, they generally also noted it in the report. Thus, 41.50% ($n = 61$) of full strengths identified in reports mapped onto the YLS/CMI domains of strengths. Additionally, two Intellectual functioning/IQ strengths and five cognitive strengths (e.g, abstract visual reasoning skills), which were not captured on the

YLS/CMI, were noted in reports. It was deemed important to measure these strengths, which are related to responsivity rather than needs, because youths' cognitive ability and intellectual functioning carry implications for a range of forensic decisions (Hoge, 2012).

The remaining strengths noted in reports ($n = 79$) were beyond the scope of the YLS/CMI and typical risk assessments and were, as such, coded as "other." It was deemed important to examine these factors and qualities closely as it is clear that clinicians considered them noteworthy since they took the care to note them in their reports. "Other" strengths are summarized in Table 3. *Qualities or factors that may promote rehabilitation* (e.g., motivation, likeability) and a *positive family environment* (e.g., caring, supportive, loving, prosocial) were the domains of strength noted most frequently.

Table 3

Number (Proportion) Of Strengths Coded As "Other" In Reports, By Category

Qualities/ Factors that may promote rehabilitation	Support/ positive influence of family	Few criminality- related factors	Skills	Goals	Good conduct/ progress	Past accomplishments
35 (44.30)	20 (25.32)	8 (10.13)	7 (8.86)	5 (6.33)	3 (3.80)	1 (1.27)

Clinicians discussed strengths specifically in a strength section some of the time ($n = 13$; 26%). They recommended that their clients' strengths be built on in 22% ($n = 11$) of reports.

Study 2

Study 2 was essentially an update of Study 1, using the new edition of the YLS/CMI, the YLS/CMI 2.0 (Hoge & Andrews, 2011). Given the more detailed instructions regarding the nature of strengths found in the manual of the YLS 2.0, it was expected that clinicians would record more strengths on the YLS 2.0 than on its predecessor. It was also expected that fewer strengths would be coded as “other” given the explicit and inclusive definitions of strengths provided in the manual.

Participants

Reviewed were the clinical files of 132 justice-involved adolescents ($n_{female} = 14$; 10.61%) aged 12 to 20 ($M = 16.32$; $SD = 1.39$) who took part in a court-ordered assessment at the CAMH between April 2011 and March 2012 and provided consent for research. All but 9 youth were between the ages of 14 and 18. A majority of participants identified as Caucasian (20%) and of other descent (14%), while a smaller percentage identified as African or Caribbean Canadian (13%), Asian (4%), East Indian (3%), Aboriginal (1.5%), or Hispanic (1.5%). Information about ethnicity was missing for 57 youth.

Slightly more than a third of the sample ($n = 48$; 36%) were first time offenders. Adolescents were referred for an assessment secondary to a variety of crimes, including violent but not sexual (57%), nonviolent (26%), or sexual (17%) offenses.

Measures and Procedure

Risk level and youth strengths. The second edition of the YLS/CMI was

recently published (Hoge & Andrews, 2011; Appendix C). This revised measure includes the same format, criminogenic need domains, strength boxes, and items as its predecessor. The norms have been updated to include a larger sample, larger proportion of ethnic minority members, as well as separate risk norms for male and female youth, and for youth in custody and in the community. Several gender-sensitive (e.g., pregnancy/motherhood issues) and culture-sensitive responsivity factors have also been added. Evidence of the predictive validity of the total risk score can be found in the YLS/CMI 2.0 manual. In the current sample, the Total risk score demonstrated excellent reliability, $KR-20 = .91$ (Kuder & Richardson, 1937).

Of greater relevance to this investigation, ‘strength’ is explicitly defined in the YLS/CMI 2.0 manual. Specifically, Hoge and Andrews (2011) define a strength as “an exceptionally positive factor that may moderate the impact of risk factors” (p. 55). Further, they specify that the absence of a risk does not invariably indicate a strength. It is clearly outlined in the manual that, although strengths are important for case planning, they are not used to calculate risk to reoffend (Hoge & Andrews, 2011). The manual provides no information regarding the psychometric properties of the strength items, however, in the current sample, the reliability of the Total strength score was satisfactory, $KR-20 = .81$.

In a step toward the operationalization of youth strengths, the revised manual also provides clear instructions on features that clinicians should consider to be a strength in each domain. Stable, caring relationships with family members, promotion of prosocial

values within the family, and the family's support of the youth's case management plan are all examples of family strengths. Commitment to school or work, motivation to do extra work, or respect for a teacher/employer are examples of strengths in the education/employment domain. The peer relations domain can only be considered a strength if a youth has several positive friends and acquaintances. A strength in the substance abuse domain includes total abstinence from substances, and therefore, the absence of a risk. Further, it is recommended to consider substance abuse (or lack thereof) as a strength when a youth is involved in support groups or anti-substance campaigns, or raises awareness of the dangers of substances among other adolescents. Long-time involvement in a school or religious organization that reinforces prosocial values constitutes a strength in the leisure/recreation domain. With respect to personality and behaviour, positive characteristics that are markedly evident in a youth, such as humility, patience, accountability, attentiveness, politeness, respect of others, and non-violent conflict resolution, are considered strengths. Finally, as is the case with the substance abuse domain, a youth's prosocial attitudes/orientation can only be considered a strength if he or she presents with none of the needs in that category (i.e., antisocial attitudes, not seeking help, actively rejecting help, defying authority, and callousness; strength as the absence of a risk).

The domains clinicians identified as strengths on the YLS/CMI 2.0 were recorded. As was done in Study 1, a subsample of 50 anonymised clinical reports ($n_{female} = 12$; 24%) in which YLS/CMI 2.0 results were noted was also coded. Reports were

chosen with care taken to ensure a relatively even distribution across disciplines from 2011 to 2012. A psychologist independent from the study coded 15 of the reports to provide a measure of inter-rater reliability. There was satisfactory agreement between the two raters ($\kappa = .74$).

Results

Relationship Between Risk Level and Number of Strengths

Most assessments were conducted by a psychiatrist or psychiatry resident ($n = 67$), 20 cases were assessed by a psychologist or psychology student or intern, and 45 by a social worker or social work student. Supervisors verified their trainees' ratings on the YLS/CMI 2.0 and the accuracy of their reports.

Examination of adolescents' YLS/CMI 2.0 revealed that their total risk scores ranged from 0 to 38, with a mean score of 21.92 ($SD = 8.86$). Thus, clinicians generally assessed youth in this sample to be at high risk for recidivism (using community norms only). A majority of youth were deemed to fall in the high risk category (44.7%; $n = 59$), while fewer youth were classified as being at low risk (12.9%; $n = 17$), moderate risk (29.5%; $n = 39$), or very high risk (12.9%; $n = 17$) for reoffense (Hoge & Andrews, 2011).

Of the 924 possible strengths that could have been recorded for this sample, only 3.25% were endorsed ($n = 30$) on the YLS/CMI 2.0 (see Table 4). Psychiatry professionals endorsed no strengths at all in the 67 clients they assessed. Total strength scores for the sample ranged from 0 to 5 ($M = .23$; $Mdn = 0$). Psychiatry recorded

significantly fewer strengths on the YLS/CMI 2.0 than did the other disciplines, $F(2, 129) = 6.10, p < .05, \eta^2 = .09$.

A majority of strengths (93.33% of total number of strengths) recorded were identified when no risk factors had been noted in a given domain ($n = 28$). This trend was particularly salient for the attitudes/orientation and substance abuse domains, which appears consistent with the manual's instructions regarding the definition of a strength for these domains. However, upon careful examination, the tendency to construe strengths as the absence of a risk was evident across all domains. With the exception of the education/employment (in 3 of the 4 instances where a strength was noted in education/employment) and peer relations (in 2 of the 3 instances where a strength was noted in peer relations) domains, strength boxes in all domains were checked off when no needs were present. Similarly, most but not all (35 out of 41) of the strengths identified in the attitudes/orientation domain on the YLS/CMI in Study 1 were also in the absence of a need. This suggests that, for reasons that are unclear, clinicians generally rated strengths on the YLS/CMI 2.0 as they did on the YLS/CMI.

Correlations were calculated to examine the relationships between youths' risk level at the time of their assessments and total number of strengths recorded. There was a significant ($p < .01$) moderate correlation ($r = -.35$) between risk level and number of strengths.

How Do Clinicians Use Information about Strengths in their Practice?

A total of 280 strengths were identified in the 50 reports. Between 0 and 15

Table 4

Frequency and Nature of Strengths (Proportion of Total Possible Strengths) Identified, By Discipline

Variable	Discipline		
	Psychology ^a	Psychiatry ^b	Social Work ^c
Total number of strengths identified	13 (9.29)	0*	17 (5.40)
Mean number of strengths identified	.65	0	.38
Number of strengths as the absence of a risk	13 (100)	0	15 (88.24)

^a $n = 20$. ^b $n = 67$. ^c $n = 45$.

* $p < .05$.

strengths were noted in each report ($M = 5.60$; $SD = 5.00$). Although psychiatry professionals identified no strengths on the YLS/CMI 2.0, they noted strengths in all coded reports. Mean number of strengths identified significantly differed across disciplines ($H[2] = 11.14$, $p < .01$). At a .0167 level of significance (Bonferroni correction), discipline had a medium effect, with psychological reports including significantly more strengths than psychiatric reports ($U = 45$, $r = -.58$). Half of identified strengths (50.84%; $n = 151$) were qualified as “relative” strengths, in that they were positive attributes identified within the individual as opposed to across youth. All strengths identified in psychiatric reports were relative strengths. The marked tendency to qualify strengths as relative highlights that clinicians did not perceive these as full or real strengths in their clients, which is consistent with the few strengths they identified on the YLS/CMI 2.0.

As was done in Study 1, only full strengths were included in the correspondence analysis. The degree of correspondence between the strengths noted on the YLS/CMI 2.0 and the YLS/CMI-related full strengths highlighted in the reports ($n = 68$) were calculated using the McNemar Test for related categorical data (McNemar, 1947), using the procedure described in Study 1. Eight family domain strengths were reported compared to 1 on the YLS/CMI 2.0, while 10 personality/behaviour strengths were indicated in reports compared to 1 on the tool. These discrepancies were statistically significant ($\chi^2[1] = 8, p < .05$ and $\chi^2[1] = 10, p < .05$, respectively). In all but two instances per domain, clinicians identified a family or personality/behaviour strength in reports when needs were also identified in these domains on the YLS/CMI 2.0. Only one strength per domain was checked off on the YLS/CMI 2.0, and this when no need was identified in the domain. It thus appears that clinicians may not find that the presence of one aspect of a strength (e.g., good frustration tolerance) is sufficient to identify an entire domain as a strength for a youth, especially when risk factors are present in this domain. The remaining McNemar Tests were not significant, which indicates little change between strength recording on the YLS/CMI 2.0 and reports. Additionally, three Intellectual functioning/IQ strengths and four cognitive strengths were noted in reports. These strengths were not captured on the YLS/CMI 2.0.

Fifty-four strengths fell beyond the scope of the YLS/CMI 2.0 and were therefore coded as “others.” Due to the nature of “other” strengths identified in YLS/CMI 2.0 reports, some new categories were created to classify them (see Table 5). Further,

strengths that were classified as “support/positive influence of family” in Study 1 were instead coded as YLS/CMI 2.0 Family circumstances/parenting strengths, as they were now consistent with the more specific description of a strength in this domain provided in the YLS 2.0 manual. Table 5 shows the categories for the “other” strengths. Most strengths were classified as positive factors or qualities (e.g., self-awareness, strong cultural ties), and skills (e.g., social/interpersonal, hands-on, artistic).

Table 5

Number (Proportion) of Strengths Coded As “Other” in Reports, By Category

Positive qualities/factors	Skills	Likeable	Potential to succeed	Relationship with service providers	Motivation	Goals	Few crim. factors
12 (21.82)	8 (14.55)	7 (12.73)	7 (12.73)	6 (10.90)	6 (10.90)	6 (10.90)	2 (3.64)

Note: crim. = criminality-related.

Strengths were presented in a strength section in 14 reports (28%).

Recommendations to build on clients’ strengths were made in nearly a quarter of reports ($n = 12$; 24%).

Comparing strength-recording practices on the YLS/CMI and the YLS/CMI 2.0

It was deemed important to compare strength-recording practices on the two editions of the tool in order to appraise the impact of the more detailed instructions concerning the nature of strengths of the YLS/CMI 2.0 relative to the YLS/CMI. First, independent samples t-tests and chi-square tests revealed that the YLS/CMI and

YLS/CMI 2.0 samples were similar with respect to ethnicity and gender composition.

The YLS/CMI 2.0 sample, however, was significantly older ($t[283.82] = 3.30, p < .05$), deemed to be at higher risk to reoffend ($t[274.20] = 4.40, p < .001$), and on average had fewer strengths identified ($t[385.18] = 4.73, p < .001$) than the YLS/CMI sample.

Chi-square tests indicated that significantly more strengths were identified on the YLS/CMI than on the YLS/CMI 2.0 in all but one domain (Education/Employment), $\chi^2(1) = 4.07-11.76, p < .05$. These effects were small ($\phi = .09-.16$).

General Discussion

There is a paucity of conclusive research findings concerning the principle of responsivity (Andrews & Bonta, 2010), the operationalization of the strength construct (Rawana & Brownlee, 2009), as well as the clinical utility and use of information about youth strengths in risk assessments (Rennie & Dolan, 2010). The two studies described here were conducted to bridge these gaps by examining the appropriateness of two widely-used versions of an actuarial risk assessment tool based on the RNR model of offender rehabilitation as youth strength measures.

Do Strengths Predict Recidivism?

As expected based on the extant literature, total risk score significantly predicted recidivism in Study 1 (e.g., Bechtel et al., 2008; Onifade et al., 2008). Youth who did not reoffend during the follow-up period had strengths in a greater number of domains than did youth who reoffended. This adds to the evidence of the cumulative impact of positive factors reported by others (Rennie & Dolan, 2010; Van der Laan et al., 2010). Consistent

with previous research (Thompson & Pope, 2005), the Total strength score in Study 1 failed to significantly predict reoffending above and beyond the influence of Total risk score. The implications of these findings are unclear. They could signify that strengths are indeed responsivity factors that do not improve the accuracy of risk prediction.

Alternatively, given that the YLS/CMI was developed first and foremost as a measure of risk and needs (and not strengths), it is possible that clinicians may have minimized its potential as a strength measure.

How Do Clinicians Use Information About Strengths in Their Risk Assessments?

Overall, clinicians identified few strengths on the YLS/CMI and the YLS/CMI 2.0, although they did appear to highlight a greater number of strengths in their clinical reports. As justice-involved youth typically present with severe and complex needs, such low endorsement of strength items could simply reflect that few strengths were present. Although this latter possibility cannot be ruled out, other findings suggest instead that clinicians endorsed few strengths because 1) they perceive the RNR-based tools primarily as measures of risk and needs rather than strength measures, 2) they construe strengths as the absence of a risk, and 3) the YLS/CMI and YLS/CMI 2.0 are not comprehensive measures of strengths.

Small discipline effects were observed, with psychiatry professionals reporting significantly fewer strengths on the YLS/CMI, YLS/CMI 2.0, and reports (Study 2 only) relative to psychology and social work professionals. Differences in strength reporting practices across disciplines may reflect varying emphases on teaching strength-based

approaches across training programmes in psychiatry, psychology, and social work. This said, psychiatry professionals noted no strengths at all on the YLS/CMI 2.0 but nevertheless identified relative strengths in their clients' reports. This suggests that clinicians across disciplines value information about strengths and make efforts to highlight them in reports. It may be that psychiatrists view the YLS/CMI and YLS/CMI 2.0 largely as measures of risk, and, thus, tend to overlook the strength boxes however, it was also the case that most of the strengths identified were noted as "relative" and therefore it is also possible that clinicians did not actually perceive an actual strength that would mitigate risk in any of the clients that they saw. Review of reports in both studies clearly demonstrates that all clinicians, regardless of discipline largely report "relative strengths" which, although they may have clear implications for treatment planning and rapport, are assumed to be of little relevance to risk prediction. Efforts to identify relative strengths in their young clients may be a well-intentioned way for clinicians to add some positivity to these otherwise negative reports (e.g., problematic behaviours, deficits, risk/need factors).

In both studies, clinicians generally noted YLS-related strengths in their reports if they identified them on the YLS/CMI or YLS/CMI 2.0. However, clinicians reported significantly more strengths in the family domain and the personality/behaviour domain in reports than they did on the YLS/CMI 2.0. Raters coded these strengths as YLS-related strengths because they matched the specific instructions provided for these domains in the YLS/CMI 2.0 manual, but clinicians did not interpret them as such. Given the lack of

time and resources many clinicians face, and the similarities in item content between the YLS/CMI and YLS/CMI 2.0, it is possible that clinicians failed to notice the new instructions and rated YLS/CMI 2.0s as they did the YLS/CMI or that clinicians are just not attending to the strengths boxes on the YLS/CMI 2.0. It is also possible that while aspects of the family functioning or personality were viewed as strengths, that overall, clinicians did not perceive enough strength in the domain as a whole to warrant indicating a strength on the risk/needs measure.

Approximately half of strengths noted in reports fell beyond the scope of the RNR-based measures. Clinicians tended to report on the youths' positive qualities, few criminality-related factors, skills, motivation, and life goals as noteworthy characteristics that were not captured by the risk assessment tools.

Frequencies of strength sections and recommendations to build on strengths were similar across studies/measures (22-28%). Although not explicitly mentioned in the literature, describing client strengths in a specific section makes strengths more salient to other professionals reading the report. Increased salience, in turn, is believed to facilitate the integration of strengths in treatment planning. Although strength-promotion interventions have been linked to positive outcomes for children and youth with emotional and behavioural difficulties (Brownlee et al., 2013; Durlak et al., 2007), a minority of reports included such a recommendation. This finding is consistent with McCammon (2012)'s observation that clinicians and circle of care teams rarely integrate the strengths they identify into their treatment plans. McCammon (2012) emphasized the

necessity of training and supervision in order that clients' strengths be exploited in treatment. Rawana and Brownlee (2009) also offered concrete suggestions to this effect. In addition to potential training and supervision factors, clinicians in the present studies may have seldom commented on strengths because there were few full strengths on which to build. Alternatively, need-based recommendations may be prioritized for the sake of brevity and efficiency because the focus of court-ordered assessments remains risk prediction. Furthermore, there are no concrete guidelines regarding how to use strengths in treatment. Due to a warranted concern for evidence-based practice, clinicians may be reluctant to recommend services that lack empirical support. Adding to this dilemma is the small number of strength-promotion programs in existence (Brownlee et al., 2013), particularly for the justice-involved population.

Was There a Change in the Use of Strength Information Between the YLS/CMI and YLS/CMI 2.0?

The YLS/CMI 2.0 manual included many improvements over the original manual. Specifically, the notion of 'strength' was clearly defined in general and for each domain. It was also specified that a strength is not merely the absence of a risk, although strengths in the substance abuse and attitudes/orientation domains were described as such. As expected, there was a change in strength-recording practice across the two measures. The direction of this change was unexpected, however. In spite of the greater attention given to strengths in the new measure's manual, fewer strengths were identified on the YLS/CMI 2.0 than on the YLS/CMI in all but one domain (education/employment

domain), although these effects were small and it was the case that the nature of the sample appears to have changed significantly over time in that youth assessed in the second study were older and were assessed to have more criminogenic needs.

More detailed instructions may have restricted what clinicians could consider a strength. This is unlikely however, as fewer strengths were identified as “Other” (i.e., not captured by the RNR-based tool) in YLS 2.0 reports than in YLS/CMI reports, which signifies that more strengths in reports corresponded to YLS strengths. As noted above, however, clinicians did not seem to realize that many of the strengths they noted in reports were appropriate for noting on the YLS/CMI 2.0. Similarly, different patterns of “other” strengths identified on the YLS/CMI and YLS/CMI 2.0 could be attributable to clinicians’ continued conceptualization of strengths as the absence of a risk in spite of clear instructions against this view (with the exception of the two domains aforementioned). Due to time restraints or the similarities between the two measures, clinicians may have missed the strength-related information in the new manual or relied on preconceptions regarding what constitutes a strength. Of course, actual differences in youth strengths across the two samples may also be at play.

Limitations and Future Directions

The present studies are innovative and timely but have limitations that must be noted. Half of identified strengths fell beyond the scope of the measures. Further research and replication of these “other” strengths is needed to determine whether including additional domains of strengths on future editions of the YLS/CMI is

warranted. Although the YLS/CMI 2.0's detailed instructions and definitions of strength are undeniable improvements over the first manual, they leave room for subjectivity. For instance, what constitutes an "exceptionally" positive factor is unclear. Clinicians' descriptions of client characteristics in reports did not usually allow for the distinction between a good and an exceptionally good attribute; thus, the overlap between report strengths and YLS/CMI 2.0 strengths may be even narrower than we reported here. This ambiguity highlights that clinicians may have had to interpret instructions, and whether they did so inaccurately remains to be determined.

Conducting interviews or surveys with a broad sample of clinicians will shed light on how clinicians construe strengths and what factors influence their strength-rating practices. Further training in strength-based approaches may also benefit clinicians in their practice and may help them recognize strengths in their young clients.

In the future, it will be important to test the hypothesized roles of strengths as responsivity considerations using structural equation modeling and larger samples. Research including follow-up information about recidivism and treatment (e.g., nature of treatment, youth's engagement in treatment, strength-based intervention) will be necessary before strengths can be conclusively considered important only as a responsivity factor and not essential to the prediction of risk. Similarly, the role of strengths as protective factors that moderate the impact of risk deserves further investigation.

The present studies suggest that the RNR-based tools are not strong measures of strength. While it is possible that these tools are actually not designed to optimally capture strengths, the possibilities that youth in our samples had few strengths to identify and that clinicians used the tools in unintended ways cannot yet be dismissed. In any event, it will be useful to validate other tools that measure strengths in a broader way than do the RNR-based measures. Using comprehensive and appropriate measures with justice-involved youth will also aid clinicians to make empirically supported recommendations to build on clients' strengths in order to promote positive treatment outcome. Research on the effectiveness of strength-based interventions will also be essential to allow clinicians to confidently recommend building on client strengths in their reports to the court.

Conclusion

Overall, these findings indicate that the YLS/CMI is not, or at least is not being used as, a sufficiently comprehensive and sensitive measure to allow for the meaningful integration of strengths information into risk calculation. Together, conclusions from the two studies reinforce the need for a concrete operationalization of the strength construct in order to 1) allow for the accurate measurement of youth strengths, 2) confidently test the role of strengths as responsivity considerations, 3) increase fidelity to rating instructions and 4) assist clinicians in accurately using strengths in the assessment of youth's risk to reoffend and, in turn, aid in rehabilitation. The operationalization of the

construct of strength will bring strength-informed risk assessments closer to evidence-based practice.

References

- American Academy of Child and Adolescent Psychiatry. (1997). Summary of the practice parameters for the assessment and treatment of children and adolescents with Conduct Disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36, 1482-1485.
- Andrews, D.A., & Bonta, J. (2010a). Rehabilitating criminal justice policy and practice. *Psychology, Public Policy, and Law*, 16, 39-55.
- Andrews, D. A., & Bonta, J. (2010b). *The psychology of criminal conduct* (5th ed.). Toronto: Lexis/Nexis.
- Andrews, D.A., Bonta, J., & Hoge, R.D. (1990). Classification for effective rehabilitation: Rediscovering psychology. *Criminal Justice and Behavior*, 17, 19-52.
- Andrews, D.A., Bonta, J., & Wormith, J.S. (2006). The recent past and near future of risk and/or need assessment. *Crime & Delinquency*, 52, 7-27.
- Andrews, D.A., & Dowden, C. (2007). The risk-need-responsivity model of assessment and human service in prevention and corrections: Crime-prevention jurisprudence. *Canadian Journal of Criminology and Criminal Justice*, 49, 439-464.
- Bechtel, K., Lowenkamp, C.T., & Latessa, E. (2008). Assessing the risk of reoffending for juvenile offenders using the Youth Level of Service/Case Management Inventory. *Journal of Offender Rehabilitation*, 45, 85-108.

- Brownlee, K., Rawana, J., Franks, J., Harper, J., Bajwa, J., O'Brien, E., & Clarkson, A. (2013). A systematic review of strengths and resilience outcome literature relevant to children and adolescents. *Child & Adolescent Social Work Journal*, Advance online publication. doi:<http://dx.doi.org/10.1007/s10560-013-0301-9>
- Chapman, J.F., Desai, R.A., Falzer, P.R., & Borum, R. (2006). Violence risk and race in a sample of youth in juvenile detention: The potential to reduce disproportionate minority confinement. *Youth Violence and Juvenile Justice*, 4, 170-184.
- Day, A., & Howells, K. (2002). Psychological treatments for rehabilitating offenders: Evidence-based practice comes of age. *Australian Psychologist*, 37, 39-47.
- Dolan, M.C., & Rennie, C.E. (2008). The Structured Assessment of Violence Risk in Youth as a predictor of recidivism in a United Kingdom cohort of adolescent offenders with conduct disorder. *Psychological Assessment*, 20, 35-46.
- Dowden, C., & Andrews, D.A. (2000). Effective correctional treatment and violence reoffending: A meta-analysis. *Canadian Journal of Criminology*, October 2000, 449-467.
- Durlak, J. A., Taylor, R. D., Kawashima, K., Pachan, M. K., DuPre, E. P., Celio, C. I., ..., & Weissberg, R. P. (2007). Effects of positive youth development programs on school, family, and community systems. *American Journal of Community Psychology*, 39, 269-286.
- Field, A. (2005). *Discovering Statistics Using SPSS (Second Ed.)*. Thousand Oaks, CA: Sage Publications.

Gendreau, P. (1996). Offender rehabilitation: What we know and what needs to be done.

Criminal Justice and Behavior, 23, 144-161.

Griffin, H.L., Beech, A., Print, B., Bradshaw, H., & Quayle, J. (2008). The development and initial testing of the AIM2 framework to assess risk and strengths in young people who sexually offend. *Journal of Sexual Aggression*, 14, 211-225.

Guerra, N.G., & Leaf, C. (2008). Implementing treatment programs in community and institutional settings. In R.D. Hoge, N.G. Guerra, & P. Boxer (Eds.), *Treating the Juvenile Offender* (pp. 103-126). New York : The Guilford Press.

Hanson, R.K., Bourgon, G., Helmus, L., & Hodgson, S. (2010). The principles of effective correctional treatment also apply to sexual offenders: A meta-analysis. *Criminal Justice and Behavior*, 36, 865-891.

Hartman, J.L., Turner, M.G., Daigle, L.E., Exum, M.L., & Cullen, F.T. (2009). Exploring the gender differences in protective factors: Implications for understanding resiliency. *International Journal of Offender Therapy and Comparative Criminology*, 53, 249-277.

Hoge, R.D. (May 30, 2012). Forensic assessments of juveniles: Practice and legal considerations. *Criminal Justice and Behavior*. Online publication. Doi: 10.1177/0093854812444024

Hoge, R. D., & Andrews, D. A. (2011). *Youth Level of Service/Case Management Inventory (2nd ed.): YLS/CMI 2.0 Interview Guide*. Toronto: Multi-Health Systems.

Hoge, R. D., & Andrews, D. A. (2002). *Youth Level of Service/Case Management*

- Inventory: YLS/CMI Interview Guide*. Toronto: Multi-Health Systems.
- Howells, K., & Day, A. (2007). Readiness for treatment in high risk offenders with personality disorders. *Psychology, Crime & Law*, 13, 47-56.
- Hubbard, D.J. (2007). Getting the most out of correctional treatment: Testing the responsivity principle on and male female offenders. *Federal Probation*, 7, 2-8.
- Kuder, G. F., & Richardson, M. W. (1937). The theory of the estimation of test reliability. *Psychometrika*, 2(3), 151–160.
- Lodewijks, H.P.B., de Ruiter, C., & Doreleijers, T.A.H. (2010). The impact of protective factors in desistance from violent reoffending : A study in three samples of adolescent offenders. *Journal of Interpersonal Violence*, 25, 568-587.
- McCammon, S. (2012). Systems of care as asset-building communities: Implementing strengths-based planning and positive youth development. *American Journal of Community Psychology*, 49, 556-565.
- McNemar, Q. 1947. Note on the sampling error of the difference between correlated proportions or percentages. *Psychometrika*, 12, 153–157.
- Meyers, J.R., & Schmidt, F. (2008). Predictive validity of the Structured Assessment for Violence Risk in Youth (SAVRY) with juvenile offenders. *Criminal Justice and Behavior*, 35, 344-355.
- Mowder, M.H., Cummings, J.A., & McKinney, R. (2010). Resiliency scales for children and adolescents: Profiles of juvenile offenders. *Journal of Psychoeducational Assessment*, 28, 326-337.

- Olver, M.E., Stockdale, K.C., & Wong, S.C. (2012). Short and long-term prediction of recidivism using the Youth level of Service/Case Management inventory in a sample of serious young offenders. *Law and Human Behavior*, 36, 331-344. doi: 10.1037/h0093927
- Onifade, E., Davidson, W., Campbell, C., Turke, G., Malinowski, J., & Turner, K. (2008). Predicting recidivism in probationers with the Youth Level of Service Case Management Inventory (YLS/CMI). *Criminal Justice and Behavior*, 35, 474-483.
- Penney, S.R., Lee, Z., & Moretti, M.M. (2010). Gender differences in risk factors for violence: An examination of the predictive validity of the Structured Assessment of Violence Risk in Youth. *Aggressive Behavior*, 36, 390-404.
- Pobanz, M.S. (2000). Using protective factors to enhance the prediction of negative short-term outcomes of first-time juvenile offenders. *Dissertation Abstracts International*, 62(5-A), 1948. Retrieved May 2, 2012, from Dissertations and Theses database.
- Rawana, E., & Brownlee, K. (2009). Making the possible probable: A strength-based assessment and intervention framework for clinical work with parents, children, and adolescents. *Family Services*, 90, 255-260.
- Rennie, C.E., & Dolan, M.C. (2010). The significance of protective factors in the assessment of risk. *Criminal Behaviour and Mental Health*, 20, 8-22.

- Schmidt, F., Campbell, M.A., & Houlding, C. (2011). Comparative analyses of the YLS/CMI, SAVRY, and PCL:YV in adolescent offenders: A 10-year follow-up into adulthood. *Youth Violence and Juvenile Justice*, 9, 23-42.
- Schmidt, F., Hoge, R.D., & Gomes, L. (2005). Reliability and validity analyses of the Youth Level of Service/Case Management Inventory. *Criminal Justice and Behavior*, 32, 329-344.
- Seligman, M.E.P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55, 5-14.
- Tedeschi, R.G., & Kilmer, R.P. (2005). Assessing strengths, resilience, and growth to guide clinical interventions. *Professional Psychology Research and Practice*, 36, 230-237. doi 10.1037/0735-7028.36.3.230
- Thompson, A.P., & Pope, Z. (2005). Assessing juvenile offenders: Preliminary data for the Australian adaptation of the youth level of service/case management inventory (Hoge & Andrews, 1995). *Australian Psychologist*, 40, 207-214.
- Ullrich, S., & Coid, J. (2011). Protective factors for violence among released prisoners—effects over time and interactions with static risk. *Journal of Consulting and Clinical Psychology*, 79, 381-390.
- Upperton, R.A., & Thompson, A.P. (2007). Predicting juvenile offender recidivism: Risk-need assessment and juvenile justice officers. *Psychiatry, Psychology and Law*, 14, 138-146.
- Van der Laan, A.M., Veenstra, R., Bogaerts, S., Verhulst, F.C., & Ormel, J. (2010).

Serious, minor, and non-delinquents in early adolescence: The impact of cumulative risks and promotive factors: The TRAILS study. *Journal of Abnormal Child Psychology*, 38, 339-351.

Vieira, T.A., Skilling, T.A., & Peterson-Badali, M. (2009). Matching court-ordered services with treatment needs: Predicting treatment success with young offenders. *Criminal Justice and Behavior*, 36, 385-401.

Viljoen, S., Nicholls, T., Greaves, C., de Ruiter, C., & Brink, J. (2011). Resilience and successful community reintegration among female forensic psychiatric patients: A preliminary investigation. *Behavioural Sciences and the Law*, 29, 752-770.

Viljoen, J.L., Elkovitch, N., Scalora, M.J., & Ullman, D. (2009). Assessment of reoffence risk in adolescents who have committed sexual offences: Predictive validity of the ERASOR, PCL:YV, YLS/CMI, and Static-99. *Criminal Justice and Behavior*, 36, 981-1000.

Appendix A

Youth Level of Service/Case Management Inventory (Hoge & Andrews, 2002)

Part 1: Assessment of Risks and Needs

1. Prior and Current Offenses/Dispositions:

- a. Three or more prior convictions
- b. Two or more failures to comply
- c. Prior probation
- d. Prior custody
- e. Three or more current convictions

2. Family Circumstances/Parenting:

- a. Inadequate supervision
- b. Difficulty in controlling behaviour
- c. Inappropriate discipline
- d. Inconsistent parenting
- e. Poor relations (father - youth)
- f. Poor relations (mother – youth)

Strength

3. Education/Employment:

- a. Disruptive classroom behaviour
- b. Disruptive behaviour on school property
- c. Low achievement
- d. Problems with peers
- e. Problems with teachers
- f. Truancy
- g. Unemployment/not seeing employment

Strength

4. Peer Relations:

- a. Some delinquent acquaintances
- b. Some delinquent friends
- c. No/few positive acquaintances
- d. No/few positive friends

Strength

5. Substance Abuse:

- a. Occasional drug use
- b. Chronic drug use
- c. Chronic alcohol use

d. Substance abuse interferes

e. Substance use linked to offense(s)
Strength

6. Leisure/Recreation:

- a. Limited organized activities
- b. Could make better use of time
- c. No personal interests

Strength

7. Personality/Behaviour:

- a. Inflated self-esteem
- b. Physically aggressive
- c. Tantrums
- d. Short attention span
- e. Poor frustration tolerance
- f. Inadequate guilt feelings
- g. Verbally aggressive, impudent

Strength

8. Attitudes/Orientation:

- a. Antisocial attitudes
- b. Not seeking help
- c. Actively rejecting help
- d. Defies authority
- e. Callous, little concern for others

Strength

YLS/CMI

By Robert D. Hoge, Ph.D., D. A. Andrews, Ph.D., & Alan W. Leschied, Ph.D.

Part II: Summary of Risks and Needs

Sum the total number of items marked with an "X" within each subscale and mark the risk level for each. Then sum the number of Xs in Column A and in Column B. Use the combined total to complete the Overall Total Risk Level, at the bottom of the page. Checkmarks in the boxes labelled "S" indicate a strength. The table below can be used for a summary.

Scores	Prior and Current Offenses	Family	Education	Peers	Substance Abuse	Leisure/ Recreation	Personality/ Behavior	Attitudes/ Orientation
Low								
Moderate								
High								
Strength								

Column A Column B

Prior and Current Offenses/Dispositions

Risk Level:

Low (0) ☐
 Moderate (1-2) ☐
 High (3-5) ☐

S

5. Substance Abuse

Risk Level:

Low (0) ☐
 Moderate (1-2) ☐
 High (3-5) ☐

2. Family Circumstances/Parenting

Risk Level:

Low (0-2) ☐
 Moderate (3-4) ☐
 High (5-6) ☐

S

6. Leisure/Recreation

Risk Level:

Low (0) ☐
 Moderate (1) ☐
 High (2-3) ☐

3. Education/Employment

Risk Level:

Low (0) ☐
 Moderate (1-3) ☐
 High (4-7) ☐

S

7. Personality/Behavior

Risk Level:

Low (0) ☐
 Moderate (1-4) ☐
 High (5-7) ☐

4. Peer Relations

Risk Level:

Low (0-1) ☐
 Moderate (2-3) ☐
 High (4) ☐

S

8. Attitudes/Orientation

Risk Level:

Low (0) ☐
 Moderate (1-3) ☐
 High (4-5) ☐

Overall Total Risk Level:

Sum of Column A and Column B Totals=

Low: (0-8) ☐
 High (23-34) ☐

Moderate: (9-22) ☐
 Very High (35-42) ☐

Column A
Total

Column B
Total

YLS/CMI

By Robert D. Hoge, Ph.D., D. A. Andrews, Ph.D., & Alan W. Leschied, Ph.D.

Part III: Assessment of Other Needs and Special Considerations

1. Family/Parents

- | | | |
|---|---|--|
| <input type="checkbox"/> Chronic History of Offenses | <input type="checkbox"/> Financial/Accommodation Problems | <input type="checkbox"/> Abusive Mother |
| <input type="checkbox"/> Emotional Distress/Psychiatric | <input type="checkbox"/> Uncooperative Parents | <input type="checkbox"/> Significant Family Trauma |
| <input type="checkbox"/> Drug/Alcohol Abuse | <input type="checkbox"/> Cultural/Ethnic Issues | (specify): _____ |
| <input type="checkbox"/> Marital Conflict | <input type="checkbox"/> Abusive Father | <input type="checkbox"/> Other (specify): _____ |

Comments: _____

2. Youth

- | | | |
|---|--|--|
| <input type="checkbox"/> Health Problems | <input type="checkbox"/> Peers Outside Age Range | <input type="checkbox"/> Third Party Threat |
| <input type="checkbox"/> Physical Disability | <input type="checkbox"/> Depressed | <input type="checkbox"/> History of Sexual/Physical Assault |
| <input type="checkbox"/> Low Intelligence/Developmental Delay | <input type="checkbox"/> Low Self-esteem | <input type="checkbox"/> History of Assault on Authority Figures |
| <input type="checkbox"/> Learning Disability | <input type="checkbox"/> Inappropriate Sexual Activity | <input type="checkbox"/> History of Weapons Use |
| <input type="checkbox"/> Underachievement | <input type="checkbox"/> Racist/Sexist Attitudes | <input type="checkbox"/> History of Fire Setting |
| <input type="checkbox"/> Poor Problem-Solving Skills | <input type="checkbox"/> Poor Social Skills | <input type="checkbox"/> History of Escapes |
| <input type="checkbox"/> Victim of Physical/Sexual Abuse | <input type="checkbox"/> Engages in Denial | <input type="checkbox"/> Protection Issues |
| <input type="checkbox"/> Victim of Neglect | <input type="checkbox"/> Suicide Attempts | <input type="checkbox"/> Adverse Living Conditions |
| <input type="checkbox"/> Shy/Withdrawn | <input type="checkbox"/> Diagnosis of Psychosis | <input type="checkbox"/> Other (specify): _____ |

Comments: (Note any special responsivity considerations including the need for culturally specific services) _____

Part IV: Your Assessment of the Juvenile's General Risk/Need Level

Taking into account all available information, provide your estimate of the risk level for this case. If your risk estimation differs from that of the inventory, please provide reasons why.

Risk Level:

- Low ☐
Moderate ☐
High ☐
Very High ☐

Reasons: _____

Appendix B

List of Coding Variables for Review of Clinical Reports

Variable	Description
Strength	A feature of the youth or his/her environment described as a 'strength' or an 'asset' in the report.
Relative strength	Clinician mentions that a particular feature constitutes a 'relative' strength for the youth, which means it may not be considered a strength for all youths but, rather, it is a positive aspect for this youth relative to his/her other domains of functioning. Using this qualifier emphasizes the unique needs profile of the youth. A strength described as 'relative' also suggests that the domain or feature described does not constitute a strength in the full sense of the word.
Cognitive strength	Based on psychoeducational testing conducted in the current assessment, an area of cognitive functioning described as a strength for the youth (e.g., verbal reasoning). 0= No strength 1=Relative strength 2=Strength
Strength as the absence of risk	The absence of a risk factor is referred to as a strength (e.g., lack of psychopathic traits). Reflects the conceptual dichotomization of strengths. 0= No strength is conceptualized as the absence of a risk 1=Any strength is considered the absence of a risk
Strengths section	Strengths are highlighted in a separate section of the report specifically devoted to strengths, as indicated by a heading to that effect. Based on the premise that identifying strengths is most helpful for the youth if strengths are clearly pointed out for service providers to build upon. Any strength included in a strengths section will be coded individually, in accordance with the coding variables below. 0 = Absent 1 = Present
Intelligence/Intellectual functioning as a strength	Irrespective of whether psychoeducational testing was conducted, the clinician reports that the youth's average or high intelligence or intellectual functioning constitutes a strength for the youth. 0-No strength 1=Relative strength 2=Strength
Family circumstances/parenting as a strength	Based on the domain measured by the YLS/CMI. The clinician reports that the youth's family, or specific aspects of the youth's family life (e.g., good relationship with father/mother, adequate parental supervision, behaviour controlled, consistency of

Variable	Description
Family circumstances/parenting as a strength (continued)	parenting, discipline), constitute a strength for the youth. 0= No strength 1=Relative strength 2=Strength
Education/employment as a strength	Based on the domain measured by the YLS/CMI. The clinician reports that the youth's performance and behaviour in school or at work, or specific aspects of the youth's school experience (e.g., no problems with peers or teachers, seeking employment, attends class regularly, good classroom behaviour, good behaviour on school property, achieves as expected), constitute a strength for the youth. 0= No strength 1=Relative strength 2=Strength
Peer relations as a strength	Based on the domain measured by the YLS/CMI. The clinician reports that the youth's group of friends and acquaintances constitutes a strength for the youth. 0= No strength 1=Relative strength 2=Strength
Substance use as a strength	Based on the domain measured by the YLS/CMI. The clinician reports that the youth's substance use (lack thereof or occasional) constitutes a strength for the youth. 0= No strength 1=Relative strength 2=Strength
Leisure/recreation as a strength	Based on the domain measured by the YLS/CMI. The clinician reports that the youth's interests and/or the way in which the youth spends his/her free time, constitute a strength for the youth. 0= No strength 1=Relative strength 2=Strength
Personality/behaviour as a strength	Based on the domain measured by the YLS/CMI. The clinician reports that the youth's personality traits and behaviour in general, or specific attributes (e.g., not physically or verbally aggressive, healthy self-esteem, good frustration tolerance, appropriate feelings of guilt, average attention span, no tantrums), constitute a strength for the youth. 0= No strength 1=Relative strength 2=Strength
Attitudes/orientation as a strength	Based on the domain measured by the YLS/CMI. The clinician reports that the youth's overall orientation, or specific attitudes (e.g., prosocial, seeks or accepts help, cares for others, does not defy authority), constitute a strength for the youth. 0= No strength 1=Relative strength 2=Strength
Other strengths in context of YLS	Strengths are reported in the context of reporting the YLS/CMI score/risk to reoffend and criminogenic needs, but are not strengths measured on the YLS/CMI (e.g., maturity). 0= No strength 1=Relative strength 2=Strength

Variable	Description
Other strengths	The clinician reports that a domain other than those measured by the YLS/CMI constitutes a strength for the youth (e.g., first contact with the legal system). This strength is reported in the strength section, not in the context of the YLS/CMI results. 0= No strength 1=Relative strength 2=Strength
Building on strengths recommendation	The recommendations section of the report includes a mention of the importance of building on the youth's strengths for clinicians, teachers, and/or other professionals who are, or will be, working with the youth. Based on the premise that identifying strengths is most helpful for the youth if these strengths are clearly pointed out for service providers to build upon. 0=Absent 1=Present

Appendix C

Youth Level of Service/Case Management Inventory – Second Edition (Hoge & Andrews, 2011)

Part 1: Assessment of Risks and Needs

1. Prior and Current Offenses/Dispositions:

- a. Three or more prior convictions
- b. Two or more failures to comply
- c. Prior probation
- d. Prior custody
- e. Three or more current convictions
- b. Chronic drug use
- c. Chronic alcohol use
- d. Substance abuse interferes
- e. Substance use linked to offense(s)

Strength

2. Family Circumstances/Parenting:

- a. Inadequate supervision
- b. Difficulty in controlling behaviour
- c. Inappropriate discipline
- d. Inconsistent parenting
- e. Poor relations (father - youth)
- f. Poor relations (mother – youth)

Strength

6. Leisure/Recreation:

- a. Limited organized activities
- b. Could make better use of time
- c. No personal interests

Strength

3. Education/Employment:

- a. Disruptive classroom behaviour
- b. Disruptive behaviour on school property
- c. Low achievement
- d. Problems with peers
- e. Problems with teachers
- f. Truancy

g. Unemployment/not seeing employment
Strength

7. Personality/Behaviour:

- a. Inflated self-esteem
- b. Physically aggressive
- c. Tantrums
- d. Short attention span
- e. Poor frustration tolerance
- f. Inadequate guilt feelings
- g. Verbally aggressive, impudent

Strength

4. Peer Relations:

- a. Some delinquent acquaintances
- b. Some delinquent friends
- c. No/few positive acquaintances
- d. No/few positive friends

Strength

8. Attitudes/Orientation:

- a. Antisocial attitudes
- b. Not seeking help
- c. Actively rejecting help
- d. Defies authority
- e. Callous, little concern for others

Strength

5. Substance Abuse:

- a. Occasional drug use

Part II: Summary of Risks and Needs

Check the first two pages of the assessment for omitted (circled) items. If more than four (4) items are omitted, the test should be considered invalid, and more information should be obtained before scoring. Sum the total number of items marked with an "X" within each subscale and mark the risk/need level for each. Then sum the number of Xs in Column A and in Column B. Use the combined total to complete the Overall Total Score at the bottom of the page, which is used to complete the Total Risk/Need Level box. Checkmarks in the boxes labeled "S" indicate a strength. The table below can be used for a summary.

Scores	Prior and Current Offenses	Family	Education	Peers	Substance Abuse	Leisure/ Recreation	Personality/ Behavior	Attitudes/ Orientation
Low								
Moderate								
High								
Strength								

Column A Column B

1. Prior and Current Offenses/Dispositions

Risk/Need Level:

- Low (0) ☐
Moderate (1-2) ☐
High (3-5) ☐

5. Substance Abuse

Risk/Need Level:

- Low (0) ☐
Moderate (1-2) ☐
High (3-5) ☐

S

2. Family Circumstances/Parenting

Risk/Need Level:

- Low (0-2) ☐
Moderate (3-4) ☐
High (5-6) ☐

6. Leisure/Recreation

Risk/Need Level:

- Low (0) ☐
Moderate (1) ☐
High (2-3) ☐

S

3. Education/Employment

Risk/Need Level:

- Low (0) ☐
Moderate (1-3) ☐
High (4-7) ☐

S

7. Personality/Behavior

Risk/Need Level:

- Low (0) ☐
Moderate (1-4) ☐
High (5-7) ☐

S

4. Peer Relations

Risk/Need Level:

- Low (0-1) ☐
Moderate (2-3) ☐
High (4) ☐

S

8. Attitudes/Orientation

Risk/Need Level:

- Low (0) ☐
Moderate (1-3) ☐
High (4-5) ☐

+

=

Column A
Total

Column B
Total

YLS/CMi 2.0
Total Score

Total Risk/Need Levels

Custodial Male:

- ☐ Low (0-19)
☐ Moderate (20-29)
☐ High (30-36)
☐ Very High (37-42)

Custodial Female:

- ☐ Low (0-19)
☐ Moderate (20-29)
☐ High (30-36)
☐ Very High (37-42)

Community Male:

- ☐ Low (0-9)
☐ Moderate (10-21)
☐ High (22-31)
☐ Very High (32-42)

Community Female:

- ☐ Low (0-8)
☐ Moderate (9-19)
☐ High (20-28)
☐ Very High (29-42)

Part III: Assessment of Other Needs and Special Considerations

1. Family/Parents

- | | | |
|---|---|---|
| <input type="checkbox"/> Chronic History of Offenses | <input type="checkbox"/> Financial/Accommodation Problems | <input type="checkbox"/> Abusive Mother |
| <input type="checkbox"/> Emotional Distress/Psychiatric | <input type="checkbox"/> Uncooperative Parents | <input type="checkbox"/> Significant Family Trauma (specify): _____ |
| <input type="checkbox"/> Drug/Alcohol Abuse | <input type="checkbox"/> Cultural/Ethnic Issues | <input type="checkbox"/> Other (specify): _____ |
| <input type="checkbox"/> Marital Conflict | <input type="checkbox"/> Abusive Father | |

Comments:

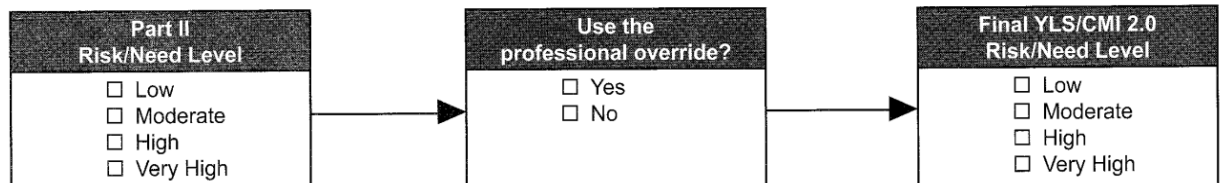
2. Youth

- | | | | |
|---|--|--|---|
| <input type="checkbox"/> Adverse Living Conditions | <input type="checkbox"/> Gang Involvement | <input type="checkbox"/> Learning Disability | <input type="checkbox"/> Self-Management Skills |
| <input type="checkbox"/> Anxious | <input type="checkbox"/> Gender Issues | <input type="checkbox"/> Low Intelligence/ Developmental Delay | <input type="checkbox"/> Shy/Withdrawn |
| <input type="checkbox"/> Communication Problems | <input type="checkbox"/> Health Problems | <input type="checkbox"/> Low Self-Esteem | <input type="checkbox"/> Suicidal Ideation/Attempts or Self-Injury |
| <input type="checkbox"/> Cruelty to Animals | <input type="checkbox"/> History of Assault on Authority Figures | <input type="checkbox"/> Manipulative | <input type="checkbox"/> Third Party Threat |
| <input type="checkbox"/> Cultural/Ethnic Issues | <input type="checkbox"/> History of Bullying | <input type="checkbox"/> Parenting Issues | <input type="checkbox"/> Underachievement |
| <input type="checkbox"/> Depressed | <input type="checkbox"/> History of Escape | <input type="checkbox"/> Peers Outside Age Range | <input type="checkbox"/> Victim of Bullying |
| <input type="checkbox"/> Diagnosis of Conduct Disorder/ Oppositional Defiant Disorder | <input type="checkbox"/> History of Fire Setting | <input type="checkbox"/> Physical Disability | <input type="checkbox"/> Victim of Neglect |
| <input type="checkbox"/> Diagnosis of Psychosis | <input type="checkbox"/> History of Running Away | <input type="checkbox"/> Poor Problem-Solving Skills | <input type="checkbox"/> Victim of Physical/Sexual Abuse |
| <input type="checkbox"/> Engages in Denial | <input type="checkbox"/> History of Sexual/Physical Assault | <input type="checkbox"/> Poor Social Skills | <input type="checkbox"/> Witness of Domestic Violence |
| <input type="checkbox"/> Fetal Alcohol Spectrum Disorder (FASD) | <input type="checkbox"/> History of Weapons Use | <input type="checkbox"/> Pregnancy Issues | <input type="checkbox"/> Other Mental Health Issues (specify below) |
| <input type="checkbox"/> Financial/Accommodation Problems | <input type="checkbox"/> Inappropriate Sexual Activity | <input type="checkbox"/> Protection Issues | <input type="checkbox"/> Other (specify below) |
| | | <input type="checkbox"/> Racist/Sexist Attitudes | |

Comments: (Note any special cultural/ethnic or gender-related responsivity considerations)

Part IV: Final Risk/Need Level and Professional Override

Taking into account all available information, provide your estimate of the risk level for this case. If your risk estimation differs from that of the inventory, please provide reasons why.



Reasons for override: _____

CHAPTER 3

**RELIABILITY AND VALIDITY OF THE STRENGTHS ASSESSMENT
INVENTORY-YOUTH VERSION (SAI-Y) WITH MALE AND FEMALE
JUSTICE-INVOLVED YOUTH**

Abstract

Strengths constitute an important element of comprehensive developmental assessments (AACAP, 1997). It is consistent with evidence-based practice to use assessment tools that adequately measure a given construct and are appropriate for use with their targeted population (APA, 2006). The Strengths Assessment Inventory-Youth Version (SAI-Y; Rawana & Brownlee, 2010)—a self-report measure of personal strengths, self-concept, and emotional functioning—was administered to 233 adolescents ($n_{\text{female}} = 76$; 33%) in conflict with the law ($M_{\text{age}} = 16.59$, $SD = 1.07$). Confirmatory Factor Analyses revealed that the SAI-Y's factor structure fit the data relatively well. Examination of internal consistency indices revealed that the Activity Engagement and Peer Connectedness empirical scales demonstrated poor reliability; additionally, the Creativity scale demonstrated low reliability for girls. Nevertheless, a majority of scales were found to exhibit good reliability. In addition to evidence of construct validity, the SAI-Y also achieved satisfactory convergent and divergent validity. Total strength scores were significantly correlated in the expected direction with most theoretically related measures of emotional and behavioural functioning (e.g., self-esteem, treatment readiness, alcohol misuse, antisocial attitudes). The SAI-Y was not however, significantly associated with the strengths component of the YLS/CMI 2.0, a risk/needs measure that also has a strengths component, suggesting the YLS/CMI 2.0 may not be as comprehensive a measure of strengths. This was the first validation study of the SAI-Y with a justice-involved sample and the results suggest the SAI-Y is an appropriate

measure for use with both male and female young persons in detention and in the community. Limitations and avenues for future research are discussed.

Introduction

The field of psychology has undergone a shift from a largely deficits-based, toward a more strength-based, focus (Seligman & Csikszentmihalyi, 2000). For instance, positive psychology and strength-based principles have been applied to address alcohol misuse in youth (Akhtar & Boniwell, 2010), youth violence (Tweed et al., 2011), and youth gangs (Bhatt, Tweed, & Dooley, 2010). Despite preliminary evidence of the effectiveness of some strength-based interventions, additional well-designed outcome studies are needed before drawing firmer conclusions (Brownlee et al., 2013). The lingering need for a unified definition of ‘strength’ (Andrews & Bonta, 2010; Guerra & Leaf, 2008; Linley et al., 2007; Rawana & Brownlee, 2009; Tedeschi & Kilmer, 2005) has likely contributed to the challenges encountered in translating this concept into measurable assessment and treatment outcomes.

Nevertheless, a strength is generally understood as a positive attribute, or developmental asset, valued by an individual and the society in which he or she exists (Rawana & Brownlee, 2009). This attribute is valuable because it enhances the likelihood of positive outcomes (e.g., healthy relationships) and may moderate or directly reduce the likelihood of negative outcomes (e.g., delinquency, substance misuse) across multiple life domains (e.g., school, home, peers). Clinically, strengths thus constitute an important element of comprehensive developmental assessments (AACAP, 1997). Additionally, the

utilization of clients' strengths as problem-solving and self-development tools is posited to hold many therapeutic benefits, which include increased rapport, enhanced treatment planning (Guerra & Leaf, 2008; Tedeschi & Kilmer, 2005), and greater empowerment of clients and families (Rawana & Brownlee, 2009).

For these reasons, the strength-based approach is also gaining momentum in forensic psychology practice. In this context, offender rehabilitation proponents have recommended that assessments of risk to reoffend include not only criminogenic needs, but also measures of strengths (Andrews, Bonta, & Wormith, 2011; Andrews & Dowden, 2007). The link between strengths and recidivism is mixed (Thompson & Pope, 2005; Upperton & Thompson, 2007; Griffin, Beech, Print, Bradshaw, & Quayle, 2008; Lodewijks, de Ruiter, & Doreleijers, 2010). Notwithstanding, possessing multiple protective factors appears to be negatively associated with delinquency and substance use (Viljoen et al., 2012; Rennie & Dolan, 2010; Van der Laan, Veenstra, Bogaerts, Verhulst, & Ormel, 2010).

Additional research is required in order to determine the best way to capture youth strengths. To this end, several tools have been developed or modified to assess the strengths of justice-involved youth specifically. Examples of professional-rated measures include the Youth Level of Service/Case Management Inventory – Second Edition (Hoge & Andrews, 2011); Structured Assessment of Violence Risk in Youth (Bartel, Borum, & Forth, 2000); the Child and Adolescent Needs and Strengths Assessment (Lyons, 1999); and the Short-Term Assessment of Risk and Treatability: Adolescent Version (Nicholls,

Viljoen, Cruise, Desmarais, & Webster, 2010). The Strengths Assessment Inventory-Observer version (SAI-O; Rawana & Brownlee, 2010) can be completed by caregivers, teachers, counsel, probation officers, or correctional officers familiar with the young person, while the Strengths Assessment Inventory-Youth version (SAI-Y) is a parallel, self-report measure.

The SAI-Y consists of 124 items that capture youth strengths, self-concept, and emotional functioning in youth aged 10 to 18 (Rawana & Brownlee, 2010). Respondents indicate on a three-point scale whether each statement (e.g., “I can decide not to go along with unsafe activities”) describes them “Not at all,” “Sometimes,” or “Almost always.” They can also indicate that an item “Does not apply” to them. The measure includes nine content scales, two supplementary content scales, and 12 empirical scales. The content scales form the Total Strength scale while the empirical scales contribute to the Total Empirical Scale.

Although designed to aid in treatment planning for justice-involved youth, the SAI-Y has yet to be validated with this population. Indeed, this tool was developed as a more comprehensive alternative to the strength items of a widely used measure of risk to reoffend and case management. Specifically, Rawana and Brownlee (2009) posit that strengths, as measured by the SAI-Y, may optimize the responsivity principle of the Risk-Need-Responsivity (RNR) model (Andrews & Bonta, 2010), a well-established and pervasively used model of offender rehabilitation. Unlike criminogenic needs, which directly contribute to an adolescent’s risk to reoffend (e.g., affiliation with antisocial

peers), responsivity factors are characteristics that indirectly affect the likelihood of future reoffending (Andrews & Bonta, 2010). Responsivity considerations (e.g., cognitive functioning, gender) work indirectly by either hindering or facilitating the youth's response to treatment and, in turn, treatment effectiveness (Andrews & Bonta, 2010). Targeting youth strengths in addition to the factors that directly affect the likelihood of reoffending in rehabilitation efforts is thus believed to increase the probability that young persons will desist from crime.

Before this premise can be, and should be, empirically tested in future research, it is important to ensure that the SAI-Y is a valid and reliable measure of delinquent adolescents' personal strengths. In the present study, the measure's reliability (internal consistency) and validity (criterion and construct) were evaluated. The factor structure of the SAI-Y was also examined using Confirmatory Factor Analysis. Both factor structures (empirical and content scales) were expected to be replicated in the current sample.

In the validation study reported in the SAI-Y's manual (Rawana & Brownlee, 2010), the SAI-Y was significantly correlated with measures of multiple domains of emotional and behavioural functioning (Behavioral and Emotional Rating Scale-2; Conners Comprehensive Behavior Rating Scales), and self-concept (Piers Harris Children's Self-Concept Scale-2). As such, it was hypothesized that the Total Strength and Total Empirical scores of the measure would be positively and significantly associated with measures of strength (RNR-based measure); family functioning; self-esteem; self-efficacy; and treatment readiness. Negative correlations were expected

between total SAI-Y scores and youth's risk to reoffend, as well as self-reported internalizing, externalizing, and total symptoms; aggression; alcohol misuse; antisocial peer affiliation; and antisocial attitudes. These constructs were selected based on their presumed connections with the domains of strengths captured by the SAI-Y.

Method

Participants

Data from 233 adolescents ($n_{\text{female}} = 149$; 64%) were collected between May 2011 and March 2012 as part of a broader, multi-site research project. Participants ranged in age from 12 to 18, with a mean age of 16.59 years ($SD = 1.07$); all but 9 participants were 15 or older. A majority of participants identified as Caucasian (43%) and of African or Caribbean descent (27%), while a smaller percentage identified as Aboriginal (5%), Asian (4%), Hispanic (2%), East Indian (2%), or belonging to another ethnic group (11%). Information about ethnicity was missing for 14 youth.

Sixty-nine adolescents ($n_{\text{female}} = 3$; 4%) participated in the study when they were seen for a court-ordered assessment at an urban mental health centre. These youth were awaiting their disposition, either in the community or in custody. The remaining 164 youth ($n_{\text{female}} = 73$; 45%) were recruited from five other institutions in Ontario. Of these, 47 were on probation ($n_{\text{female}} = 28$; 60%), 9 were in open custody ($n_{\text{female}} = 7$; 78%) and 108 were in secure custody ($n_{\text{female}} = 38$; 35%). A majority of participants (55%) reported at least one contact with the police prior to the offense for which they were currently involved with the justice system. With respect to current charges, 62% were charged with

a violent offense (homicide, assault, robbery), 59% with a non-violent offense (theft, using substances), and 9% were charged with a sexual offense.³

Measures

This validation study fell within the scope of a broader, collaborative research project, entitled “*Gendered Pathways to Delinquency and Implications for Risk Assessment*.” Using an innovative mix of qualitative (i.e., in-depth interviews) and quantitative (i.e., mainly self-report questionnaire measures) research designs, the objectives of the *Pathways* project were to clarify the pathways through which male and, particularly, female youth come to break the law, and bridge gaps in the literature concerning female delinquency. The assessment package included several measures. Only the ones relevant to the present investigation are described here.

Youth strengths. Two measures were used to capture youth strengths: 1) The Youth Level of Service/Case Management Inventory—Second Edition (YLS/CMI 2.0; Hoge & Andrews, 2011) and, of most pertinence to this study, the Strengths Assessment Inventory—Youth Version (SAI-Y).

YLS/CMI 2.0. The YLS/CMI 2.0 (Appendix A), a professional-rated measure of a youth’s risk to reoffend and criminogenic needs derived from the RNR model, was completed by trained raters for 223 youth ($n_{female} = 70$; 31%). The YLS/CMI 2.0 is a 42-item checklist of risk factors and criminogenic needs in eight domains: history of criminal conduct; family circumstances and parenting; current school or employment

³ The total percentage exceeds 100 because youth typically had more than one charge and the categories are not mutually exclusive.

problems; criminal peer affiliations; alcohol or drug problems; leisure and recreational activities; personality and behaviour; and antisocial attitudes and orientation. Each item on the YLS/CMI 2.0 is coded as either present or absent. A Total risk score ranging from 0 to 42 is obtained by adding the needs endorsed across all domains. The Total risk score is associated with a norm-based qualitative category of risk to reoffend (i.e., low, moderate, high, very high). There are separate norms for youth in custody and those in the community, by gender.

With the exception of history of criminal conduct, all domains of criminogenic need include a strength box to indicate if a particular domain constitutes a strength for the youth. A total strength score (YLS Total Strength) ranging from 0 to 7 was created by summing the strength boxes raters checked off on the YLS/CMI 2.0. The evidence provided in the YLS/CMI 2.0's manual supports the measure's psychometric properties with justice-involved samples. Findings regarding the psychometric properties of the strength items of the YLS/CMI 2.0 and its predecessor could not be located in the literature or in the manual. In the current sample, the reliability of the strength index was poor, $KR-20 = .57$ for the entire sample, $KR-20 = .64$ for boys and $.34$ for girls (Kuder & Richardson, 1937). Removal of the strength item from the leisure/recreation domain increased the reliability of this scale for all groups but reliability remained lower than desired ($KR-20 = .60$ for the whole sample, $.66$ for boys and $.45$ for girls).

SAI-Y. Two hundred and thirty three youth ($n_{female} = 76$; 33%) completed the SAI-Y. As mentioned previously, the SAI-Y (Rawana & Brownlee, 2010; Appendix B) is

a 124-item measure (105 items without the supplementary scales) used to comprehensively assess youth's perceived domains of strengths. With the exception of item 114 ("Do you currently have a girlfriend or boyfriend?"), response choices include 0 (Not at all), 1 (Sometimes), and 2 (Almost Always). Items endorsed as "Does not Apply" are treated as missing variables. The nine content scales were created based on informed judgment regarding the domains the developers believed would be most helpful in guiding rehabilitation efforts with justice-involved youth. Thus, the content scales assess perceived strengths in the following domains: home, school, leisure activities, peers, self-awareness, adaptive skills, community involvement, faith and culture, and goals and dreams. Additionally, two content scales (i.e., strengths at work and with dating) were qualified as supplementary based on the low response rate of their items in the validation sample described in the manual (Rawana & Brownlee, 2010). The items in each scale are added to produce scale scores. Prorated scale scores can also be computed in order not to penalize a respondent when some items do not apply to him or her, provided that at least 75% of the items of a scale were endorsed. Prorated scores were used in the validation study described in the SAI-Y's manual and in the published study of selected results from this study (Brazeau, Teatero, Rawana, Brownlee, & Blanchette, 2012). Together, the scale scores are added to produce a Total Strength score (or Prorated Total Strength score). The supplementary scales are not included in the Total scores calculation.

As described in the measure's manual, Rawana and Brownlee (2010) examined the factor structure of the content scales using Principal Component Analysis (PCA) and

determined that each scale could be further divided into more factors. Nevertheless, given the clinical rather than empirical purpose of the content scales, the content scales were kept in their original form (i.e., as they appear on the measure).

Additionally, Rawana and Brownlee (2010) identified twelve empirical scales on the SAI-Y using exploratory factor analysis and the PCA approach. These scales are intended to supplement the domains of strength measured by the content scales. The empirical scales measure youth's coping skills, commitment to family values, respect for one's own culture, optimism for the future, community engagement, classroom behaviour, creativity, well-being, health consciousness, prosocial attitudes, activity engagement, and peer connectedness. The same scoring procedure applies to the empirical scale items. Responses on these scales are added to produce a Total Empirical Strength score (or Prorated Total Empirical Strength score).

To reiterate, the content scales emerged from clinical judgment and reflect domains of strength believed to be valuable for youths' rehabilitation. The empirical scales were, in contrast, statistically derived. Whereas each content scale is conceptually distinct from the others, an empirical scale may include items from more than one domain. The same items are configured differently to form both sets of scales and thus assess somewhat different facets of the strength construct (e.g., strengths at home vs. commitment to family values). Rawana and Brownlee (2010) indicate that the content scales span broad systems or domains in the child's life and environment, while the

strengths captured by the empirical scales are not necessarily rooted in a child's ecology (e.g., health consciousness).

Evaluation of the psychometric properties of the SAI-Y (using prorated scale scores) has revealed moderate to strong internal consistency for all scales (except the supplementary scales), with estimates ranging from .60 to .87 for content scales. The Total Strength Score and Total Empirical Strength Score also showed strong internal consistency estimates (.96 and .94, respectively; Brazeau et al., 2012). The SAI-Y has demonstrated good test-retest reliability when used with a sample of 572 children and adolescents ages 9 to 19 years (Brazeau et al., 2012). The SAI also demonstrated good convergent and divergent validity with standardized instruments of strengths and emotional and behavioural functioning (i.e., Behaviour and Emotional Rating Scale-2, Piers-Harris Children's Self-Concept Scale-2, Conners Comprehensive Behaviour Rating Scales-SR; Rawana & Brownlee, 2010). In a different sample, the SAI-Y's Strengths from knowing oneself and Strengths from goals and dreams scales were found to have good reliability among elementary school students who participated in an anti-bullying school-based program (Rawana, Norwood, & Whitley, 2011).

Family functioning. One-hundred-thirty-eight participants ($n_{female} = 38$; 28%) completed the McMaster Family Assessment Device (FAD; Epstein, Baldwin, & Bishop, 1983; Appendix C). The standardized self-report measure includes 60 items that capture six dimensions of family functioning, including problem solving, communication, roles, affective responsiveness, affective involvement, and behaviour control. Additionally, the

general functioning scale provides an overview of the family's overall functioning. Responses range from 1 (Strongly Agree) to 4 (Strongly Disagree), for a possible Total Score ranging from 60 to 240. Higher scores indicate poorer family functioning. The FAD has been used with a justice-involved population (Skilling, Doiron, & Seto, 2011). Its subscales showed satisfactory internal reliability among psychiatric, medical, and non-clinical samples of families ($\alpha = .57-.86$; Kabacoff, Miller, Bishop, Epstein, & Keitner, 1990). The internal reliability of the FAD in the current sample was very good, $\alpha = .93$ ($\alpha_{\text{male}} = .91$, $\alpha_{\text{female}} = .93$).

Self-esteem. Two-hundred-twelve youth ($n_{\text{female}}=68$; 32%) completed the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965; Appendix D). Respondents indicate the extent to which they agree with each of 10 statements (e.g., "I take a positive attitude toward myself") on a scale ranging from 0 (Strongly Disagree) to 3 (Strongly Agree). The Total Score ranges from 0 to 30, with higher scores indicating higher feelings of self-worth or self-acceptance. The psychometric properties of the RSES are well-established (Sinclair et al., 2010; Vasconcelos-Raposo, Fernandes, Teixeira, & Bertelli, 2012). In the current sample, the internal consistency of the RSES was satisfactory, $\alpha = .73$ ($\alpha = .70$ for boys and $\alpha = .76$ for girls).

Self-efficacy. Two-hundred-three adolescents ($n_{\text{female}} = 65$; 32%) completed the short version of the General Self-efficacy Scale (GSES; Bosscher & Smit, 1998; Appendix E). Participants indicate their level of agreement with each of 12 statements, from 1 (Strongly Agree) to 5 (Strongly Disagree). A total score ranging between 12 and

60 is generated by summing the items. Higher scores indicate higher levels of self-efficacy, which includes participants' self-reported persistence, initiative, and effort. The psychometric properties of the different versions of the GSES are well-established with adolescents and adults (Bosscher & Smit, 1998; Luszczynska, Scholz, & Schwarzer, 2005). As expected, the GSES demonstrated optimal internal consistency in the current sample, $\alpha = .84$ ($\alpha = .83$ for boys and $\alpha = .87$ for girls).

Treatment readiness. The Corrections Victoria Treatment Readiness Questionnaire (CVTRQ; Casey, Day, Howells, & Ward, 2007; Appendix F) was completed by 203 youth ($n_{female} = 66$; 33%). This 20-item self-report measure assesses four facets of readiness to participate in an offender rehabilitation intervention: Attitudes and motivation (e.g., "Treatment programs don't work"); emotional reaction ("I feel ashamed about my offending"); offending beliefs ("I am to blame for my offenses"); and efficacy ("I am well-organized"). Respondents indicate their level of agreement with each statement, from 1 (Strongly Disagree) to 5 (Strongly Agree). Total scores range from 20 to 100, with higher scores indicating greater readiness for treatment. Research with adults suggests that the CVTRQ has adequate internal consistency as well as good convergent and divergent validity (Casey et al., 2007; Day et al., 2009). In the current sample, reliability estimates for the overall sample, boys, and girls, were adequate, ranging from .77 to .80.

Psychopathology. Participants provided information about their emotional and behavioural functioning on the Youth Self-Report (YSR; Achenbach, 1991; Appendix

G). The YSR is a standardized self-report measure for youth ages 11 to 18. Respondents indicate the extent to which each of 112 statements is “Not true” (0) to “Very/Often true” (2) of their own behaviour over the past six months. The internalizing problems scale ($n = 205$; $n_{female} = 65$; 32%) includes the following domains: Withdrawn/depressed, anxious/depressed, and somatic complaints. The externalizing problems scale ($n = 199$; $n_{female} = 64$; 32%) is produced by adding the rule-breaking behaviours and aggressive behaviours scales. The Total Problems score ($n = 165$; $n_{female} = 54$; 33%) includes the Internalizing and Externalizing scores, in addition to the social problems, thought problems, and attention problems scales. Higher scores on the YSR indicate more severe self-reported emotional and behavioural difficulties. The psychometric properties of the YSR are well-established, with alpha values exceeding .80 (Achenbach, 1991; Achenbach & Rescorla, 2001; Newman, Lohman, & Newman, 2007). In the current sample (overall and by gender), alpha values for the Internalizing, Externalizing, and Total Problems scales all exceeded .90, thus indicating optimal internal consistency.

Aggression. The Aggression Questionnaire (AQ; Buss & Warren, 2000; Appendix H) is a 34-item standardized self-report measure of a youth’s perceived level of aggression ($n = 196$, $n_{female} = 60$; 31%). Responses range from 1 (Not at all like me) to 5 (Completely like me), for a Total Score ranging from 34 to 170 and higher scores indicating higher levels of aggression. The AQ captures five dimensions of aggression: Physical aggression, verbal aggression, anger, hostility, and indirect aggression. Buss and Warren (2000) have reported the AQ subscales and total scores have satisfactory

psychometric properties. Similarly, the reliability estimates in the current sample were good, $\alpha = .94$ ($\alpha_{\text{male}} = .95$, $\alpha_{\text{female}} = .93$).

Alcohol misuse. The Alcohol Use Disorders Identification Test (AUDIT; Babor, Higgins-Biddle, Saunders, & Monteiro, 2001; Appendix I) was completed by 196 youth ($n_{\text{female}} = 69$; 35%). This 10-item screening measure assesses adolescents' drinking patterns (amount and frequency), alcohol dependence, and problems linked to their alcohol consumption. Responses range from 0 to 4 (questions 1-8) or from 0 to 2 (questions 9 and 10), with higher total scores indicating more hazardous patterns of alcohol consumption. The psychometric properties of the AUDIT with youth and adult general populations are well-established (de Meneses-Gaya, Zuardi, Loureiro, & Crippa, 2009). The AUDIT showed good internal reliability in the current sample, with $\alpha = .89$ for boys, girls, and the overall sample.

Antisocial peers. One-hundred-fifty-nine participants ($n_{\text{female}} = 61$; 38%) completed a modified version of Part A (Associates section) of the Measure of Criminal Attitudes and Associates (MCAA; Appendix J). In accordance with the original measure (Mills & Kroner, 1999), participants are asked to identify the four individuals with whom they spend the most time, describe their age and gender, and answer questions about the criminal involvement of the described person (e.g., "Has this person tried to involve you in a crime?"). Participants were asked to qualify each person as a friend or an acquaintance. Additionally, in this modified version of the MCAA, participants could also qualify a person as a romantic partner. Responses on Section A of the MCAA yield a

total number of criminal friends, as well as a Criminal Friend Index—the sum of the products of the extent of the criminal involvement of each identified person by the amount of time spent with this person. An evaluation of the psychometric properties of the MCAA with incarcerated men indicated adequate reliability, and good convergent, discriminant, and criterion validity (Mills, Kroner, & Forth, 2002). The Criminal Associates section of the MCAA also showed optimal internal consistency in the current sample, $KR-20 = .82$ ($KR-20 = .82$ for boys and $.81$ for girls).

Criminal attitudes. Criminal or antisocial attitudes are an important element of the RNR model and a strong predictor of recidivism in juvenile offenders (e.g., Skilling & Sorge, 2013). Two measures of this construct were thus used in the present study. The Pride in Delinquency Scale (Simourd, 1997; Appendix K) was completed by 213 youth ($n_{female} = 67$; 31%). The self-report measure consists of 10 items rated on a 21-point Likert scale that ranges from -10 to +10. Negative numbers indicate that the respondent would be ashamed of committing the behaviour (e.g., “Selling drugs”), while positive numbers indicate the subject would be proud to commit the behaviour. Responses are then summed together to yield a total score. Higher scores therefore indicate more procriminal attitudes. As suggested by Simourd (1997), 100 was added to each score to guarantee a positive total score. The PID possesses good psychometric properties with adult offenders (Simourd, 1997; Simourd & van de ven, 1999). It also successfully predicts recidivism in juvenile (Skilling & Sorge, 2013) and adult (Simourd & van de

ven, 1999) forensic samples. In the present sample, the PID had good reliability, with $\alpha = .88$ for boys, .86 girls, and .87 for the overall sample.

Antisocial attitudes were also measured using Section B of the MCAA (Mills & Kroner, 1999; Appendix J), which was completed by 177 adolescents ($n_{female} = 58$; 33%). Participants indicate whether they agree (1) or disagree (0) with each of 46 statements (e.g., “Stealing to survive is understandable”). Greater Total Attitudes scores suggest stronger antisocial attitudes. No published studies evaluating the psychometric properties of the measure with adolescents were found. A study conducted with incarcerated men suggests that the MCAA is a reliable measure of criminal attitudes in adults (Mills et al., 2002). Internal consistency in the current youth sample and by gender was also optimal, KR-20 $> .88$ for all groups.

Impression management. Sixty-eight youth ($n_{female}=2$) in a subsample of the Pathways study also completed the Paulhus Deception Scales (PDS; Paulhus, 1998; Appendix L). The PDS consists of 40-items that measure the tendency to give socially desirable responses on self-report measures. The questionnaire includes two subscales: Self-Deception (20 items) measures the tendency to give honest but inflated self-descriptions. Impression Management (20 items) measures the tendency to intentionally give inflated self-descriptions to appear in a positive light. Responses are recorded on 1 (Not true) to 5 (Very true) scales. Higher scores reflect greater socially desirable responding. The measure obtained satisfactory reliability in a sample of justice-involved youth (Penney & Skilling, 2012). In the present study, the SDE scale was satisfactory for

the whole sample and boys ($\alpha = .67$, and $\alpha = .69$, respectively) and the IM scale was slightly lower for the whole sample and boys ($\alpha = .64$, and $\alpha = .62$, respectively). Reliability for the girls could not be assessed due to the small number of girls who completed the PDS.

Risk to reoffend. A Total risk score ranging from 0 to 42 on the YLS/CMI 2.0 was obtained for 223 youth ($n_{female} = 70$; 31%; see Youth Strengths section above for complete description of the measure; Appendix A). Information about the properties of the YLS/CMI 2.0 has yet to be published but validation information found in the YLS/CMI 2.0 manual confirms that, as was the case with the YLS/CMI, the Total risk score of the YLS/CMI 2.0 predicts recidivism. Further, as both versions include the same items and require the risk score to be used in the same manner, research on the Total risk score of the YLS/CMI should be relevant. The YLS/CMI has well established predictive validity and predicts short- and long-term reoffending in juvenile populations (Bechtel et al., 2008; Olver, Stockdale, & Wong, 2012; Onifade et al., 2008; Viljoen, Elkovitch, Scalora, & Ullman, 2009). In the current sample, the internal consistency of the Total risk score was good ($KR-20 = .79$ for the whole sample, $.81$ for boys and $.76$ for girls).

Demographic and offense information. Demographic (e.g., age, sex, and ethnicity) and offense information (e.g. offense characteristics, date of offense(s), sentencing outcome) was coded from available file information using a coding manual developed for the *Pathways* project (Appendix M).

Procedure

Research evaluation committees at all relevant institutions granted ethical approval for the *Pathways* project. Youth from participating juvenile justice facilities were approached by this writer, another research assistant, or a clinician (CAMH only) and took part in the study if they provided informed consent. Guardian consent was obtained for youth under the age of 16. A file review was conducted for consenting youth. Consenting youth also participated in a semi-structured interview developed for the *Pathways* project or, at the very least, completed a package of psychological measures. As previously mentioned, the YLS/CMI 2.0 was completed by the research team or clinicians based on file and interview information, and clinical judgment when applicable. Youth received financial compensation commensurate with their participation, for a maximum of \$30. Youth seen as part of their court process were not remunerated, as the interview and questionnaires were a part of their court-ordered assessment.

Analytic strategy

First, MANOVAs were conducted using SPSS 18.0 to determine whether gender and ethnicity influenced SAI Total scores. Second, inter-item correlation (MIC), mean corrected item-total correlation (MCITC) and Cronbach's alpha coefficients were calculated to evaluate the internal consistency of the SAI-Y's content and empirical scales, Total Strength Score, and Total Empirical Strength Score. Prorated scores were used in all analyses in accordance with the guidelines in the measure's manual and

Brazeau et al. (2012)'s published investigation. Internal consistency was calculated for the overall sample and separately by gender, consistent with Brazeau et al. (2012)'s approach in their published study of the reliability of the SAI-Y.

Third, the structure of the SAI-Y was examined. To do so, separate Confirmatory Factor Analyses (CFA) were conducted for the content and empirical scales using Mplus Version 6.1 (Muthén & Muthén, 1998-2010). Given that the SAI-Y items are rated on a three-point scale, making each item categorical and not continuous, the robust weighted least squares (WLSMV) estimator for categorical data was used for all CFAs (Muthén & Muthén, 2001). Following the traditional CFA, a MIMIC model for measurement invariance (i.e., CFA with a covariate; Muthén, 1989) was tested to examine the potential influence of gender on the SAI-Y's factor structure. The CFA and MIMIC models were then compared in terms of fit indices. Fourth, additional evidence for the construct validity of the measure was obtained by computing SAI-Y scale intercorrelations and subscale-to-total Pearson correlations with the Total and Total Empirical strength scales.

Fifth, convergent and divergent validity were assessed by conducting Pearson correlations between the SAI-Y Total Strength Score and Total Empirical Strength Score and the total scores of selected measures from the *Pathways* questionnaire package. The sample size in the present study ensured sufficient statistical power (Flora & Curran, 2004).

Results

Group Differences

All SAI-Y prorated scales were examined to ensure that the assumptions of MANOVA were met. Specifically, collinearity, Mahalanobis distances, Cook's distance, leverage values, residual plots, Kolmogorov-Smirnov tests of residuals, and covariance matrices were perused for problematic variables and cases. The following variables were deemed problematic (negatively skewed) and were thus transformed (squared) for the MANOVAs: Strengths from Knowing Myself, Peer Connectedness, Optimism, and Respect for Culture. Gender and ethnicity were entered simultaneously in each of three MANOVAs. Given the small number of youth who identified as Aboriginal, Asian, Hispanic, and Indian, participants in these categories were added to the "Other" group. Three resulting ethnic groups were used in the analyses: Caucasian, African/Caribbean, and youth from "Other" origins. Differences between the three ethnic groups were clarified through multivariate contrasts using the Bonferroni correction to adjust the alpha level for significance. Wilks' Lambda was used as the multivariate test.

The first MANOVA revealed no significant gender differences or interaction on the prorated Total Strength Score and prorated Total Empirical Strength Score.

African/Caribbean youth, however, reported significantly greater total scores relative to Caucasians and youth from other ethnic backgrounds: $F(4, 284) = 4.27, p = .002, \eta^2 = .11$. The second MANOVA, which included all prorated content and supplementary

scales, yielded a significant gender difference. Specifically, male youth reported more strengths in the Strengths at Home domain relative to their female counterparts, $F(11, 54) = 2.03, p = .043, \eta^2 = .29$. No gender by ethnicity interaction or effect of ethnicity on content scales were observed. The third MANOVA, which concerned the prorated empirical scale scores, uncovered significant gender and ethnicity main effects, but no significant interaction. With respect to gender, male youth reported a significantly greater number of strengths than female youth on the Coping, Family Values, and Well-Being subscales. Conversely, girls perceived that they possessed significantly more strengths than their male counterparts in the domains of Peer Connectedness and Creativity: $F(12, 137) = 6.31, p = .000, \eta^2 = .36$. With respect to ethnicity, African/Caribbean adolescents reported significantly more strengths than Caucasian and “Other” youth combined, on the following subscales: Classroom Behaviour, Community Engagement, Well-Being, Optimism, and Respect for Culture: $F(24, 274) = 2.04, p = .004, \eta^2 = .15$.

Overall, some gender and ethnicity differences were found in total, content, and empirical strength scores on the SAI-Y. Although there are no specific guidelines regarding the interpretation of effect size in multivariate data, multivariate η^2 calculations indicated that the ethnicity effects were small ($< .2$) while the effects of gender were moderate (.29 and .36). As such, it was deemed important to report subsequent results by gender and overall sample but not by ethnicity. Doing so was also in keeping with how results are presented in the SAI-Y manual (Rawana & Brownlee, 2010) and Brazeau et al.

(2012)'s published study of the reliability of the SAI-Y with non-offending youth. The psychometric properties and evaluation of the structure of the SAI-Y are presented first, followed by the results of correlations with relevant psychological measures. Descriptive statistics for all SAI-Y scales are provided in Tables 1 and 2.

Psychometric Properties of the SAI-Y

Internal consistency, or reliability, estimates consisting of mean inter-item

Table 1

Mean and Standard Deviations of Prorated Content Scale Scores

SAI-Y Content Scales	Boys		Girls		Overall	
	Mean (<i>n</i>)	<i>SD</i>	Mean (<i>n</i>)	<i>SD</i>	Mean (<i>n</i>)	<i>SD</i>
Home	18.17*(152)	4.29	16.46 (70)	4.28	17.63 (222)	4.35
School	18.00 (150)	5.85	18.19 (67)	5.75	18.06 (217)	5.81
Free Time	21.53 (152)	6.92	21.99 (76)	6.33	21.68 (228)	6.72
Friends	14.62 (149)	3.37	14.93 (75)	2.91	14.72 (224)	3.22
Knowing Myself	27.83 (153)	5.29	24.24 (76)	5.30	26.64 (229)	5.55
Keeping Clean and Healthy	12.00 (153)	3.09	11.92 (76)	3.15	11.97 (229)	3.10
Being Involved	6.88 (148)	2.83	6.70 (68)	3.07	6.82 (216)	2.90
Faith and Culture	13.03 (142)	4.65	12.34 (66)	4.78	12.81 (208)	4.69
Goals and Dreams	11.48 (150)	2.66	11.41 (73)	2.84	11.46 (223)	2.72
Job	12.48 (133)	2.60	12.69 (56)	2.74	12.54 (189)	2.64
Dating	16.74 (65)	4.41	17.35 (45)	3.09	16.99 (110)	3.92
Total Strength Scale	144.40 (119)	28.72	140.50 (50)	24.94	143.25 (169)	27.64

* $p < .05$

correlations (MIC), mean corrected item-to-total correlations (mean CITC), and Cronbach's alpha are displayed in Tables 3 and 4 for content and empirical scales, respectively.

As shown in Table 3, all Cronbach alpha values for the content scales were near or beyond the recommended level of .7 and all mean CITC values equaled or exceeded .3 (Nunnally & Bernstein, 1994). These values indicate satisfactory internal consistency of the content scales for boys, girls, and the full sample. Similarly, most empirical scales achieved acceptable internal consistency. However, the Activity Engagement and Peer Connectedness scales showed poor internal consistency for all groups ($\alpha < .55$). Further, the Creativity scale had low reliability for girls ($\alpha = .57$), but not for boys and the sample as a whole.

Item-level analyses revealed that item 46 ("I have other hobbies") of the Activity Engagement scale performed particularly poorly (CITC = .20) for the overall sample. Excluding this item would increase the mean CITC to .35 and α to .51 but would decrease the MIC to .25. Excluding both items 46 and 45 ("I like doing things outdoors, like hunting, fishing, or camping"; CITC = .26), however, would increase the MIC to .59, mean CITC to .39, and α to .74. The remaining scale would consist of only 2 items. Similarly, removing item 46, which was particularly problematic for girls (CITC = .08) would increase MIC to .21, the mean CITC to .33, and the α to .45 for boys, and .31 (MIC), .37 (MCITC), and .57 (α) for girls. Excluding both items 45 and 46 would increase MIC to .59, the mean CITC to .38, and α to .74 for boys, and .51 (MIC), .40 (MCITC), and .67 (α) for girls.

Table 2

Mean and Standard Deviations of Prorated Empirical Scale Scores

SAI-Y Empirical Scales	Boys		Girls		Overall	
	Mean (<i>n</i>)	<i>SD</i>	Mean (<i>n</i>)	<i>SD</i>	Mean (<i>n</i>)	<i>SD</i>
Competent Coping Skills	14.87*** (155)	3.36	12.77 (76)	3.20	14.18 (231)	3.45
Family Values	11.83*** (152)	3.01	10.90 (69)	3.07	11.54 (221)	3.05
Respect for Own Culture	8.71 (136)	3.73	8.28 (65)	3.78	8.57 (201)	3.75
Optimism for the Future	13.02 (154)	3.06	12.95 (74)	3.16	13.00 (228)	3.09
Community Engagement	7.51 (146)	3.97	7.02 (70)	4.11	7.35 (216)	4.01
Classroom Behaviour	8.29 (149)	3.11	8.40 (67)	3.33	8.32 (216)	3.17
Creativity	5.76 (151)	2.56	6.87*** (75)	2.08	6.13 (226)	2.46
Well-Being	6.57*** (151)	1.57	5.14 (76)	1.89	6.09 (227)	1.81
Health Consciousness	11.88 (153)	3.15	11.83 (76)	3.02	11.87 (229)	3.10
Prosocial Attitude	5.81 (151)	2.39	5.62 (73)	2.51	5.75 (224)	2.43
Activity Engagement	4.80 (151)	2.05	4.08 (74)	2.01	4.56 (225)	2.06
Peer Connectedness	6.92 (151)	1.27	7.13*** (76)	1.15	6.99 (227)	1.23
Total Empirical Scale	106.69 (115)	21.81	101.78 (48)	19.39	105.24 (163)	21.19

*** $p < .001$

Item-level analyses of the Peer Connectedness scale suggest that excluding item 57 (“I have a good sense of humour”; CITC = .11) would increase MIC to .34, the mean CITC to .35, and α to .51 for the whole sample. Removing this item, which was particularly problematic for girls (CITC = .06) would increase MIC to .33, the mean CITC to .34, and the α to .49 for boys, and .37 (MIC), .37 (MCITC), and .58 (α) for girls. Excluding item 57

Table 3

Internal Consistency Estimates of the Content Scales of the SAI-Y

Strengths Domain (Number of items)	MIC			Mean CITC			Alpha		
	Sex		Overall	Sex		Overall	Sex		Overall
	Boys	Girls		Boys	Girls		Boys	Girls	
Home (12)	.37	.21	.31	.56	.41	.52	.87	.77	.84
School (15)	.33	.29	.31	.53	.50	.52	.87	.86	.87
Free time (19)	.25	.19	.23	.47	.39	.44	.87	.81	.85
Friends (10)	.29	.18	.25	.47	.35	.43	.79	.69	.76
Knowing Myself (18)	.24	.22	.25	.45	.43	.46	.85	.84	.86
Keeping Clean & Healthy (8)	.33	.29	.31	.51	.47	.49	.79	.77	.79
Being Involved (6)	.39	.37	.38	.55	.52	.54	.79	.77	.78
Faith and Culture (10)	.36	.38	.36	.55	.57	.55	.84	.86	.85
Goals and Dreams (7)	.44	.47	.45	.60	.63	.61	.84	.85	.84
Job (8)	.25	.36	.28	.40	.53	.47	.69	.79	.72
Dating (11)	.60	.39	.52	.74	.57	.69	.93	.85	.91
Total Strength Scale (105)	.27	.06	.20	.51	.30	.44	.97	.88	.96

Note: MIC = mean inter-item correlations; CITC = corrected item-to-total correlations.

would leave only a three item scale. On the Creativity scale, excluding item 42 (“I like to bake or cook”; CITC = .21) would increase the MIC to .24 and the mean CITC to .35 for girls. Excluding this item would have no effect on α , which would remain at .57.

Table 4

Internal Consistency Estimates of the Empirical Scales of the SAI-Y

Strengths Domain (Number of items)	MIC			Mean CITC			Alpha		
	Sex		Overall	Sex		Overall	Sex		Overall
	Boys	Girls		Boys	Girls		Boys	Girls	
Competent Coping Skills (10)	.29	.25	.29	.47	.44	.48	.80	.77	.80
Family Values (8)	.31	.23	.29	.49	.40	.47	.78	.71	.76
Respect for Own Culture (7)	.41	.47	.43	.58	.63	.60	.84	.86	.84
Optimism for the Future (8)	.43	.42	.42	.60	.59	.59	.85	.84	.84
Community Engagement (8)	.39	.37	.38	.56	.55	.58	.83	.82	.83
Classroom Behaviour (7)	.40	.47	.42	.57	.63	.58	.82	.86	.83
Creativity (5)	.34	.20	.31	.48	.33	.45	.72	.57	.70
Wellbeing (4)	.39	.39	.43	.51	.51	.55	.71	.72	.75
Health Consciousness (8)	.33	.28	.31	.51	.46	.49	.80	.76	.79
Pro-Social Attitude (5)	.42	.41	.42	.56	.55	.56	.78	.78	.78
Activity Engagement (4)	.23	.19	.21	.33	.30	.31	.54	.49	.52
Peer Connectedness (4)	.21	.21	.21	.28	.29	.29	.45	.47	.46
Total Empirical Scale (78)	.25	.09	.19	.49	.30	.42	.96	.88	.95

Note: MIC = mean inter-item correlations; CITC = corrected item-to-total correlations.

Structure of the SAI-Y

Next, the factor structure of the SAI-Y's content and empirical scales was evaluated with separate Confirmatory Factor Analyses (CFA) using Mplus 6.1 (Muthén & Muthén, 1998-2010). Three fit indices were used to ascertain the goodness of fit of the models: The

Comparative Fit Index (CFI; Bentler, 1990), the Tucker-Lewis coefficient (TLI; Tucker & Lewis, 1973), and Root Mean Square Error of Approximation (RMSEA; Steiger & Lind, 1980). TLI and CFI values at or above .9 indicate a good fit (Arbuckle & Wothke, 1999; Browne & Cudeck, 1993). RMSEA values below .05 suggest a good fit and, between .05 and .08, an acceptable fit (Browne & Cudek, 1993). The assumptions of the CFA were assessed prior to conducting the analyses and no problems were identified. All scale items were thus included in the analyses. Given the gender differences the MANOVAs revealed, a MIMIC model was used to explore potential gender differences or measurement non-invariance on factors and particular items (Muthén, 1989). The MIMIC model essentially allows the CFA to be conducted with a covariate, which in the present study was gender. The fit indices of the MIMIC model were then compared to those of the CFA model. Given the large number of items and relatively small sample, the analyses were conducted on a few scales at a time (Jackson, 2003). Scales were grouped together for the analysis based on the number of items and their conceptual relationship.

Overall, comparison of fit indices and factor loadings indicate that the CFA model fit the sample better than the MIMC model, although the differences between the two were negligible, which suggests that the factor structure of the SAI-Y is similar for boys and girls. The factor structure of the content scales demonstrated an acceptable fit to the current sample. There were two exceptions: 1) the Strength During Your Free Time and Strength with Friends subset achieved an acceptable RMSEA value but lower than desired fit indices and 2) the structure of the supplementary scales fit the data very well.

Results of the content scales are reported in Table 5. Similarly, the factor structure of the empirical scales fit the data well, with RMSEA below the recommended cut-off and fit indices approximating or exceeding the recommended threshold. Fit statistics of the CFA with the empirical scales are reported in Table 6. The factor loadings for all items are reported in Appendix N.

Table 5

Results of Confirmatory Factor Analysis of the Content Scales

Strength Domains	Chi square (df)	CFI	TLI	RMSEA
At home & At school	663.07 (323)	.89	.88	.06
Being involved, Faith and culture, & Goals and dreams	506.67 (227)	.93	.92	.07
Free time & With friends	897.26 (376)	.77	.75	.07
Knowing myself & Keeping clean and healthy	591.37 (298)	.90	.89	.06
On the job & With dating	193.73 (134)	.97	.97	.04

Note: CFI = comparative fit index; TLI = Tucker-Lewis coefficient; RMSEA = root mean square error of approximation.

Construct Validity

The scales of an assessment tool are intended to measure related but distinct dimensions of a single construct. As such, a measure's scales are expected to be significantly correlated with one another. As Tables 7 and 8 indicate, Pearson intercorrelations with the whole sample for the content and empirical scales ranged between .14 and .58, and .11 and .51, respectively. All but one (i.e., Activity Engagement

Table 6

Results of Confirmatory Factor Analysis of the Empirical Scales

Strength domains	Chi square (df)	CFI	TLI	RMSEA
Coping, Optimism for future, & Creativity	471.76 (227)	.91	.90	.06
Family values, Peer connectedness, & Classroom behaviour	236.36 (149)	.96	.95	.05
Wellbeing, Health consciousness, & Activity engagement	256.86 (101)	.91	.89	.08
Respect for own culture, Prosocial attitude, & Community Engagement	398.36 (167)	.90	.88	.07

Note: CFI = comparative fit index; TLI = Tucker-Lewis coefficient; RMSEA = root mean square error of approximation.

Table 7

SAI-Y Content Scale Intercorrelations, Overall Sample

Scale	SAH	SAS	SFT	SWF	SKM	SKC	SBI	SFC	SGD	SOJ	SWD
SAH	-	.34**	.32**	.45**	.39**	.33**	.33**	.31**	.36**	.16*	.42**
SAS		-	.45**	.52**	.39**	.33**	.51**	.36**	.43**	.44**	.42**
SFT			-	.52**	.47**	.40**	.58**	.40**	.51**	.40**	.16
SWF				-	.55**	.48**	.52**	.38**	.52**	.53**	.46**
SKM					-	.48**	.49**	.49**	.51**	.44**	.31**
SKC						-	.46**	.30**	.43**	.53**	.42**
SBI							-	.51**	.47**	.44**	.14
SFC								-	.47**	.39**	.15
SGD									-	.52**	.41**
SOJ										-	.46**
SWD											-

Note: SAH = strengths at home; SAS = strengths at school; SFT = strengths during free time; SWF = strengths with friends; SKM = strengths from knowing myself (squared); SKC = strengths from keeping clean and healthy; SBI = strengths from being involved; SFC = strengths from faith and culture; SGD = strengths from goals and dreams; SOJ = strengths on the job; SWD = strengths with dating.

*p < .05 (two-tailed); **p < .01 (two-tailed)

and Classroom Behaviour) of the intercorrelations between empirical scales, and most of the associations between content scales (except Strengths with Dating with three scales)

Table 8

SAI-Y Empirical Scale Intercorrelations, Overall Sample

Scale	CC	SFV	RC	OP	SCE	SCB	SC	SWB	HC	PSA	AE	PC
CC	-	.39**	.45**	.47**	.35**	.35**	.34**	.51**	.41**	.50**	.31**	.21**
CFV		-	.31**	.37**	.22*	.35**	.23**	.24**	.33**	.43**	.17*	.27**
RC			-	.47**	.48**	.30**	.29**	.35**	.26**	.37**	.21**	.21**
OP				-	.42**	.41**	.37**	.48**	.47**	.49**	.27**	.22**
CE					-	.37**	.40**	.32**	.46**	.41**	.35**	.19**
FCB						-	.32**	.19**	.24**	.50**	.11	.16*
C							-	.17*	.37**	.37**	.29**	.23**
WB								-	.39**	.34**	.31**	.31**
HC									-	.40**	.35**	.36**
PSA										-	.25**	.25**
AE											-	.25**
PC												-

Note: CC = competent coping skills; CFV = commitment to family values; RC = respect for own culture (squared); OP = optimism for the future (squared); CE = community engagement; FCB = functional classroom behaviour; C = creativity; WB = well-being; HC = health consciousness; PSA = prosocial attitude; AE = activity engagement; PC = peer connectedness (squared).

* $p < .05$ (two-tailed); ** $p < .01$ (two-tailed)

were statistically significant. Table 9 shows that content scale intercorrelations ranged between .05 (Dating and Free time) and .65 (Being involved and Free time) for boys. For boys, all content scale intercorrelations were significant with the exception of three correlations with Strengths with Dating, as well as the Job and Home intercorrelation. Empirical scales ranged from .08 (Activity Engagement and Family Values) and .57 (Prosocial attitude and Classroom behaviour) for boys (see Table 10). All but three associations were significant (except the Activity Engagement and Commitment to Family Values, Well-Being and Family Values, and Activity Engagement and Classroom Behaviour intercorrelations). The weakest correlations emerged for the girls, with 11% of content scales (Table 11) and 27% of empirical scales (Table 12) not being significantly correlated. Associations ranged between .08 (Home and School) and .63 (Goals and

Table 9

SAI-Y Content Scale Intercorrelations, Boys

Scale	SAH	SAS	SFT	SWF	SKM	SKC	SBI	SFC	SGD	SOJ	SWD
SAH	-	.47**	.31**	.45**	.36**	.37**	.33**	.32**	.34**	.12	.45**
SAS		-	.46**	.59**	.42**	.40**	.59**	.44**	.46**	.42**	.48**
SFT			-	.51**	.54**	.40**	.65**	.46**	.51**	.38**	.05
SWF				-	.61**	.48**	.56**	.44**	.53**	.53**	.40**
SKM					-	.49**	.54**	.49**	.53**	.50**	.28*
SKC						-	.46**	.31**	.36**	.54**	.43**
SBI							-	.55**	.50**	.41**	.10
SFC								-	.50**	.35**	.18
SGD									-	.47**	.33**
SOJ										-	.49**
SWD											-

Note: SAH = strengths at home; SAS = strengths at school; SFT = strengths during free time; SWF = strengths with friends; SKM = strengths from knowing myself (squared); SKC = strengths from keeping clean and healthy; SBI = strengths from being involved; SFC = strengths from faith and culture; SGD = strengths from goals and dreams; SOJ = strengths on the job; SWD = strengths with dating.

*p < .05 (two-tailed); **p < .01 (two-tailed)

Table 10

SAI-Y Empirical Scale Intercorrelations, Boys

Scale	CC	SFV	RC	OP	SCE	SCB	SC	SWB	HC	PSA	AE	PC
CC	-	.38**	.46**	.47**	.35**	.38**	.48**	.40**	.44**	.53**	.26**	.29**
CFV		-	.33**	.36**	.25**	.48**	.31**	.14	.37**	.42**	.08	.30**
RC			-	.50**	.51**	.38**	.37**	.31**	.29**	.45**	.20*	.24**
OP				-	.44**	.44**	.40**	.44**	.43**	.38**	.26**	.22**
CE					-	.40**	.49**	.38**	.50**	.47**	.39**	.18*
FCB						-	.31**	.20*	.30**	.57**	.15	.19*
C							-	.32**	.40**	.41**	.33**	.24**
WB								-	.40**	.32**	.31**	.44**
HC									-	.40**	.33**	.39**
PSA										-	.25**	.28**
AE											-	.27**
PC												-

Note: CC = competent coping skills; CFV = commitment to family values; RC = respect for own culture (squared); OP = optimism for the future (squared); CE = community engagement; FCB = functional classroom behaviour; C = creativity; WB = well-being; HC = health consciousness; PSA = prosocial attitude; AE = activity engagement; PC = peer connectedness (squared).

*p < .05 (two-tailed); **p < .01 (two-tailed)

Table 11

SAI-Y Content Scales Intercorrelations, Girls

Scale	SAH	SAS	SFT	SWF	SKM	SKC	SBI	SFC	SGD	SOJ	SWD
SAH	-	.08	.37**	.54**	.34**	.27*	.34**	.29*	.42**	.31*	.46**
SAS		-	.40**	.33**	.40**	.17	.34**	.16	.35**	.50**	.31
SFT			-	.53**	.41**	.38**	.44**	.30*	.52**	.45**	.41**
SWF				-	.54**	.47**	.45**	.25*	.51**	.54**	.58**
SKM					-	.52**	.44**	.50**	.55**	.40**	.54**
SKC						-	.45**	.30*	.57**	.51**	.46**
SBI							-	.43**	.42**	.52**	.26
SFC								-	.40**	.48**	.08
SGD									-	.63**	.53**
SOJ										-	.36*
SWD											-

Note: SAH = strengths at home; SAS = strengths at school; SFT = strengths during free time; SWF = strengths with friends; SKM = strengths from knowing myself (squared); SKC = strengths from keeping clean and healthy; SBI = strengths from being involved; SFC = strengths from faith and culture; SGD = strengths from goals and dreams; SOJ = strengths on the job; SWD = strengths with dating.

*p < .05 (two-tailed); **p < .01 (two-tailed)

Table 12

SAI-Y Empirical Scale Intercorrelations, Girls

Scale	CC	SFV	RC	OP	SCE	SCB	SC	SWB	HC	PSA	AE	PC
CC	-	.34**	.43**	.53**	.35**	.34*	.32**	.55**	.39**	.49**	.31*	.12
CFV		-	.24	.42**	.11	.09	.19	.32**	.24*	.45**	.30*	.28*
RC			-	.39**	.41**	.15	.14	.44**	.21	.19	.23	.15
OP				-	.37**	.34**	.34**	.63**	.56**	.51**	.29*	.24*
CE					-	.30*	.25*	.24*	.38**	.29*	.25*	.24*
FCB						-	.34**	.24*	.09	.37**	.04	.08
C							-	.15	.35**	.35**	.37**	.18
WB								-	.45**	.40**	.18	.24*
HC									-	.42**	.38**	.29*
PSA										-	.25*	.21
AE											-	.26*
PC												-

Note: CC = competent coping skills; CFV = commitment to family values; RC = respect for own culture (squared); OP = optimism for the future (squared); CE = community engagement; FCB = functional classroom behaviour; C = creativity; WB = well-being; HC = health consciousness; PSA = prosocial attitude; AE = activity engagement; PC = peer connectedness (squared).

*p < .05 (two-tailed); **p < .01 (two-tailed)

Dreams & Job) for content scales and .04 (Classroom Behaviour and Activity Engagement) and .63 (Well-Being and Optimism) for empirical scales. These correlations suggest that the SAI-Y does measure a cohesive construct of youth strengths, although the measure may be less cohesive for girls than it is for boys and the overall sample.

Next, subscale-to-total correlations were calculated for the content scales (Table 13) and empirical scales (Table 14). All content and empirical scales correlated significantly with their respective total score, with correlations ranging from .31 to .82 (content scales), and from .31 to .78 (empirical scales). This trend was observed for boys, girls, and the overall sample.

Table 13

Scale-to-Total Correlations, Content Scales

SAI-Y Content Scales	<i>r</i>		
	Boys	Girls	Overall
At Home	.62**	.63**	.62**
At School	.79**	.52**	.71**
During Free Time	.82**	.79**	.80**
With Friends	.78**	.73**	.76**
Knowing Myself (squared)	.79**	.77**	.77**
Keeping Clean & Healthy	.63**	.55**	.61**
Being Involved	.80**	.69**	.76**
Faith & Culture	.67**	.50**	.63**
Goals & Dreams	.69**	.72**	.69**
On the Job	.61**	.70**	.63**
With Dating	.31*	.51**	.38**

*p < .05 (two-tailed); **p < .01 (two-tailed)

Table 14

Scale-to-Total Correlations, Empirical Scales

SAI-Y Empirical Scales	<i>r</i>		
	Boys	Girls	Overall
Competent coping skills	.71**	.75**	.71**
Commitment to family values	.55**	.59**	.57**
Respect for own culture (squared)	.66**	.50**	.62**
Optimism for the future (squared)	.74**	.78**	.75**
Community engagement	.76**	.62**	.72**
Functional classroom behaviour	.66**	.44**	.59**
Creativity	.65**	.62**	.60**
Well-Being	.57**	.60**	.57**
Health Consciousness	.69**	.61**	.66**
Prosocial attitude	.73**	.67**	.71**
Activity engagement	.48**	.56**	.50**
Peer connectedness (squared)	.44**	.31*	.39**

* $p < .05$ (two-tailed); ** $p < .01$ (two-tailed)

Convergent Validity

As a measure of personal strengths, self-concept, and emotional functioning, the SAI-Y was expected to be significantly and positively correlated with other measures of these constructs. Correlations between the SAI-Y total scores and the total scores of related measures are summarized in Tables 15 and 16. Neither SAI-Y total score was significantly correlated with the YLS/CMI 2.0 Strength score, although they approached significance for girls. Additionally, the Total Empirical strength score was not significantly associated with the Family Assessment Device total score for girls, and the CVTRQ score for boys. All remaining correlations were significant, which suggests that strengths as measured by the SAI-Y are moderately related to family functioning, self-esteem, self-efficacy, and treatment readiness.

Table 15

Correlations Between SAI-Y Total Strength Score and Relevant Measures

Measures	<i>r</i>		
	Boys	Girls	Overall
YLS/CMI 2.0 (Total Strength score)	-.02	.22	.03
Family Assessment Device	.38**	.41*	.41**
Rosenberg Self-Esteem Scale	.20*	.49**	.29**
General Self-Efficacy Scale	.52**	.68**	.57**
Corrections Victoria Treatment Readiness Questionnaire	.20*	.49**	.30**

Note: Higher scores on the FAD signify worse family functioning. The negative sign of the correlation was reversed to be more intuitive and facilitate understanding.

* $p < .05$ (two-tailed); ** $p < .01$ (two-tailed)

Table 16

Correlations Between SAI-Y Total Empirical Strength Score and Relevant Measures

Measures	<i>r</i>		
	Boys	Girls	Overall
YLS/CMI 2.0 (Total Strength score)	-.06	.25	.02
Family Assessment Device	.37**	.35	.42**
Rosenberg Self-Esteem Scale	.22*	.43**	.30**
General Self-Efficacy Scale	.53**	.59**	.55**
Corrections Victoria Treatment Readiness Questionnaire	.19	.49**	.30**

Note: Higher scores on the FAD signify worse family functioning. The negative sign of the correlation was reversed to be more intuitive and facilitate understanding.

* $p < .05$ (two-tailed); ** $p < .01$ (two-tailed)

Divergent Validity

Based on the strengths and protective factors literature, the SAI-Y, as a measure of strengths, was expected to be negatively correlated with measures of emotional and behavioural problems, substance misuse, aggression, antisocial attitudes, risk to reoffend, and number of antisocial peers. Tables 17 and 18 show the Pearson correlation values for

Table 17

Correlations Between SAI-Y Total Strength Score and Relevant Measures

Measures	<i>r</i>		
	Boys	Girls	Overall
Youth Self-Report			
Total Problems	-.22*	-.70**	-.35**
Internalizing Problems	-.15	-.55**	-.28**
Externalizing Problems	-.30**	-.67**	-.40**
Aggression Questionnaire	-.27**	-.57**	-.33**
Alcohol Use Disorders Identification Test	-.35**	-.37*	-.36**
MCAA Total Attitudes Score	-.30**	-.33*	-.31**
Pride in Delinquency Scale	-.30**	-.33**	-.31**
MCAA Total Criminal Friend Index	-.26*	-.27	-.26**
YLS/CMI 2.0 Total Risk Score	-.16	-.49**	-.23**

Note: MCAA= Measure of Criminal Attitudes and Associates; the Pride in Delinquency Total score distribution was transformed (square rooted) because it was positively skewed.

*p < .05 (two-tailed); **p < .01 (two-tailed)

Table 18

Correlations Between SAI-Y Total Empirical Strength Score and Relevant Measures

Measures	<i>r</i>		
	Boys	Girls	Overall
Youth Self-Report			
Total Problems	-.22	-.63**	-.35**
Internalizing Problems	-.16	-.47**	-.28**
Externalizing Problems	-.29**	-.64**	-.40**
Aggression Questionnaire	-.27**	-.56**	-.34**
Alcohol Use Disorders Identification Test	-.35**	-.41**	-.37**
MCAA Total Attitudes Score	-.28*	-.42**	-.32**
Pride in Delinquency Scale	-.26**	-.28	-.27**
MCAA Total Criminal Friend Index	-.24*	-.27	-.25**
YLS/CMI 2.0 Total Risk Score	-.13	-.51**	-.21*

Note: MCAA= Measure of Criminal Attitudes and Associates; the Pride in Delinquency Total score distribution was transformed (square rooted) because it was positively skewed.

*p < .05 (two-tailed); **p < .01 (two-tailed)

these associations. The Total Strength and Total Empirical Strength scores were indeed significantly negatively correlated with most measures' total scores. Exceptions included the PID Total score for girls (SAI-Y Total empirical strength score only); and, with respect to both SAI-Y Total strength scores, the YSR's internalizing subscale for boys, the YSR Total Problems subscale for boys (empirical score), and the Criminal Friend Index for girls (empirical and total scores) showed no significant associations.

Impression Management

On the PDS, scores below 1 and above 12 indicate that an individual's self-report is invalid. Examination of the PDS indicated that youth in the CAMH subsample, on average, displayed neither a bias to respond in a socially desirable fashion ($M = 7.13$; $SD = 3.27$) nor an inflated sense of their own abilities ($M = 4.09$; $SD = 3.41$). These findings suggest that their reports on the SAI-Y are therefore likely an accurate representation of their perceptions of their strengths, increasing confidence in the findings concerning the measure's psychometric properties, and youth reports on the other self-report measures used in the present investigation.

Discussion

This study was the first to date to evaluate the psychometric properties of the Strengths Assessment Inventory—Youth Version (SAI-Y) in a sample of justice-involved adolescents. Small ethnicity effects were observed, with youth of African- and Caribbean-Canadian descent generally reporting a greater number of strengths in a

variety of domains than did their Caucasian counterparts and those of other ethnic backgrounds.

More substantial differences were seen across gender in rates of strength endorsement in several domains. Neither Rawana and Brownlee (2010) nor Brazeau and colleagues (2012) report or comment on any gender differences, thus preventing any comparison with other published studies having used the SAI-Y. Notwithstanding, gender differences have also emerged in ongoing doctoral work in which adolescents from a community sample completed the SAI-Y (H. Nguyen, personal communication, September 26, 2013). Specifically, a Latent Profile Analysis produced low-, moderate-, and high-strength profiles. While boys had a greater probability of belonging to the low-strength profile, no gender differences were observed at moderate and high levels (H. Nguyen, personal communication, September 26, 2013). In the present study, two thirds of the gender differences involved boys reporting *more* strengths than girls. Although additional research is needed, these contrasting findings suggest that boys in the community may differ from justice-involved boys with respect to their actual or perceived strengths.

The literature on justice-involved adolescents offers some support for the gender differences identified in the present study. Many items on the Coping scale involve emotion regulation and emotional responses to events. In accordance with our findings, girls in the justice system typically have more difficulty with affect regulation than do boys (Eppright, Kashani, Robinson, & Reid, 1993). Calhoun (2001) used the Behavior

Assessment System for Children (BASC) to identify gender differences between 44 male and 44 female justice-involved adolescents. Consistent with our findings on the SAI-Y, female youth in her study reported significantly greater levels of sadness, hopelessness, and dissatisfaction with themselves, and lower levels of self-esteem (Well-Being) than their male counterparts. Relative to boys, girls also perceived that they were less valued by, and less important to, the members of their family (Home/Family values; Calhoun, 2001). In another, multi-method study, family problems were rated as the primary risk factor for delinquency among justice-involved adolescent girls (Bloom, Owen, Deschenes, & Rosenbaum, 2002). The finding that girls reported a higher quality of friendships than boys (peer connectedness) is also consistent with the literature (Wissink, Dekovic, & Meijer, 2009; Worthen, 2012). The finding that girls reported higher creativity scores than boys adds to the mixed literature regarding gender differences in the self-assessment of creativity (Baer & Kauffman, 2008). These gender differences suggest that adolescent boys and girls perceive that they possess certain strengths more often than others. These findings raise the possibility of identifying patterns of group-specific strengths in addition to unique, intra-individual constellations of strengths. Uncovering group-specific strengths may facilitate the development of strength-promoting interventions.

Examining the SAI-Y's internal consistency estimates indicated satisfactory to good reliability for the content and empirical scales. The Activity Engagement and Peer Connectedness scales, however, demonstrated poor reliability for the overall sample,

boys, and girls. Additionally, the Creativity scale showed low reliability for girls, as mentioned previously. No other published study using the SAI-Y with a justice-involved population exists to which to compare the present findings. Nevertheless, Brazeau et al. (2012), who assessed the reliability of the SAI-Y with non-offending children and youth, found the same three scales had lower reliability. It is surprising that the factor-analysis-derived empirical scales were less reliable than the content scales derived from educated judgment, in both samples. The smaller number of items constituting empirical scales relative to content scales could potentially explain the lower reliability, particularly considering that the three problematic scales consist of only 4 or 5 items each. Together, these findings suggest that the SAI-Y is a reliable strengths measure to use with male and female justice-involved youth ages 15 to 18, but its Activity Engagement and Peer Connectedness scales should be used cautiously until additional evidence concerning reliability is available.

The factor structure of the SAI-Y fits boys, girls, and the full sample equally well. Further, consistent with Rawana and Brownlee's (2010) initial validation results, most of the content and empirical scales were significantly and substantially correlated, with some exceptions for boys, girls, and the overall sample. As expected, all subscale scores also correlated significantly with their respective total score for all groups. Correlations obtained for the whole sample were comparable to those Rawana and Brownlee (2010) reported. The overall sample correlation for the Strengths with Dating subscale ($r = .38$) was more substantial than the one reported by Rawana and Brownlee (2010; $r = .18$),

likely because more participants in the current study reported being in a romantic relationship than in the younger sample Rawana and Brownlee (2010) studied. Together, these correlational findings suggest there is some variability in the extent to which the SAI-Y scales are associated, with some capturing more and others less closely related facets of the strength construct. Overall, however, each scale appears to make a unique contribution to a broader measure of youth strengths.

The expected associations were observed between the SAI-Y total scores and a variety of measures. Specifically, strengths were positively correlated with related indicators of well-being, including family functioning, self-esteem, self-efficacy, and treatment readiness. Most associations were significant while some approached significance. Small sample size for some measures may partially explain associations that were nearly significant in the present study. Although they approximated significance for girls, neither total score was significantly associated with the YLS/CMI 2.0 Strength score for boys and the overall sample, which, in keeping with another study on the YLS/CMI strengths (Thompson & Hope, 2005), suggests that the YLS/CMI 2.0 is not likely an adequate measure of youth strengths. Alternatively, this discrepancy could be due to the source of information (professional vs. self), in that the professionals who were rating strengths did not perceive the youth's characteristics in the same way that the youth see themselves.

Divergent validity was also supported. Total strength scores on the SAI-Y were negatively correlated with constructs that are theoretically divergent, such as

psychopathology (total, internalizing, and externalizing problems), aggression, alcohol misuse, antisocial attitudes, risk to reoffend, and affiliation with criminal peers. There were a few exceptions concerning antisocial attitudes and number of criminal friends for girls, and Total Problems and internalizing difficulties for boys. These observations are consistent with the finding that time spent with friends is a stronger predictor of delinquency for teenage boys than it is for girls (Worthen, 2012). Additionally, they are congruous with the relatively low prevalence of internalizing difficulties observed in justice-involved male adolescents compared to externalizing problems in these boys and internalizing problems in girls (Archer, Simonds-Bisbee, Spiegel, Handel, & Elkins, 2010; Calhoun, 2001; Plattner et al., 2009). Further, neither SAI-Y total strength score was significantly correlated with the YLS/CMI 2.0 Total risk score for boys. As the link between risk and strengths requires further exploration, the reason for this non-significant finding is unclear.

Overall, these findings provide substantial evidence of the SAI-Y's convergent and divergent validity, especially for the Total Strength score, and somewhat less so for the Total Empirical Strength score. Further research is required before ascertaining this pattern for the Total Empirical Strength score.

Limitations and Future Directions

Although important and pioneering, this study is not without its limitations. With the exception of the YLS/CMI 2.0, only self-report measures were used. Although findings regarding the CAMH subsample indicated that youth, on average, responded

candidly, it is possible that participants' endorsement of strengths in the broader Pathways sample may have been influenced by a bias toward impression management or a lack of insight into their competencies. Next, the relatively high proportion of non-significant scale intercorrelations obtained for the girls may be the result of the relatively low number of girls in the current sample. Future research with a greater sample size and a more balanced male to female ratio may yield stronger results in terms of the measure's reliability, validity, and factor structure. Similarly, this sample of a respectable size was relatively small given the large number of items of the SAI-Y. For these reasons, although exclusion of specific items improved the reliability of problematic subscales in the current sample, replication is needed before these modifications can be generalized to other samples of justice-involved adolescents. Rawana and Brownlee (under review) are currently developing a much shorter, 40-item version of the SAI-Y. This briefer version will certainly be appealing to practitioners with limited time and resources, as well as to youth who struggle with attention and reading. Similarly, the very small number of youth under the age of 16 limited this investigation. It remains to be seen whether the SAI-Y is also appropriate for use with younger adolescents involved in the justice system.

It remains possible that the absence of significant correlations between the SAI-Y and the YLS/CMI 2.0 strength score is a function of the poor reliability of the YLS/CMI 2.0 strengths index in the current sample. Further, the important psychometric property of test-retest reliability could not be evaluated in the current study. It will be important in future research on the SAI-Y to include a follow-up component including official crime

data in order to evaluate these properties, given the original intent of the SAI-Y to optimize the responsivity principle of offender rehabilitation.

Conclusion and Clinical Implications

In summary, the SAI-Y demonstrates adequate reliability and validity for justice-involved adolescents. Results about the domains of Activity Engagement and Peer Connectedness should be interpreted with caution, however, given their poor reliability. A revision of the items on these scales thus appears necessary. Although more research is required to confirm the construct validity of the SAI-Y, the measure's factor structure fit our sample relatively well. Including gender as a covariate did not improve the fit. Further, subscale-to-item correlations were significant, as expected. Most scale intercorrelations were significantly associated, although the weakest correlations were found for girls. The relatively small number of girls in our sample may be to blame. The convergent and divergent validity of the measure was also supported. Being mindful of the caveats noted above, the results of this investigation indicate that the SAI-Y is a reliable and valid tool to measure youth strengths in justice-involved male and female adolescents.

Although the SAI-Y has acceptable psychometric properties with justice-involved adolescents, it remains unclear how the information gathered by the SAI-Y can be translated into intervention to benefit the youth most optimally. Future research examining the specific mechanism through which strengths are helpful will be important. For instance, strengths on the SAI-Y may serve as cues for professionals to think about a

variety of domains of strengths, which they will include in their reports to probation officers, judges, and other mental health professionals. Other service providers could then, in turn, build on these strengths to foster rehabilitation. Completing the SAI-Y may also directly benefit the youth by increasing their self-esteem, serving as a reminder of their assets in a context where their deficits are typically the focus (e.g., antisocial behaviour). The gender differences in patterns of self-reported strengths identified in this study should be explored further and replicated. They nevertheless reinforce the importance of the increasingly cited need for gender-specific interventions (Bloom et al., 2002; Cauffman, 2008).

Guidelines regarding the integration of strengths in treatment in general, including intervention with the heterogeneous population of justice-involved youth, remain to be formulated. The discrepant findings between the YLS/CMI 2.0 (i.e, non-significant correlations and discrepant number of strengths endorsed on it vs. the SAI-Y) and the SAI-Y lend credence to the notion that a multi-method, multi-informant assessment approach is best practice (AACAP, 1997). Nevertheless, identifying sturdy assessment tools to measure personal strengths is a step toward the operationalization of strengths as a construct and the wider use of the strength-based approach in clinical work with justice-involved youth in particular, and adolescents in general.

References

- Achenbach, T. M. (1991). *Manual for the Youth Self-Report and 1991 profile*. Burlington, VT: University of Vermont, Department of Psychiatry.
- Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for the ASEBA School-Age Forms & Profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, & Families.
- Akhtar, M., & Boniwell, I. (2010). Applying positive psychology to alcohol-misusing adolescents: A group intervention. *Groupwork, 20*, 6-31.
- American Academy of Child and Adolescent Psychiatry. (1997). Summary of the practice parameters for the assessment and treatment of children and adolescents with Conduct Disorder. *Journal of the American Academy of Child and Adolescent Psychiatry, 36*, 1482-1485.
- Andrews, D.A., & Bonta, J. (2010). Rehabilitating criminal justice policy and practice. *Psychology, Public Policy, and Law, 16*, 39-55.
- Andrews, D.A., Bonta, J., & Wormith, J.S. (2011). The Risk-Need-Responsivity (RNR) Model: Does adding the Good Lives Model contribute to effective crime prevention? *Criminal Justice and Behavior, 38*, 735-755.
- Andrews, D.A., & Dowden, C. (2007). The risk-need-responsivity model of assessment and human service in prevention and corrections: Crime-prevention jurisprudence. *Canadian Journal of Criminology and Criminal Justice, 49*, 439-464.

- APA Presidential Task Force on Evidence-Based Practice. (2006). Evidence-based practice in Psychology. *American Psychologist*, 61, 271-285.
- Arbuckle, J.L., & Wothke, W. (1999). *AMOS 4.0 User's Guide*. Chicago: SPSS, Inc.
- Archer, R.P., Simonds-Bisbee, E.C., Spiegel, D.R., Handel, R.W., & Elkins, D.E. (2010). Validity of the Massachusetts Youth Screening Instrument-2 (MAYSI-2) scales in juvenile justice settings. *Journal of Personality Assessment*, 92, 337-348. doi: 10.1080/00223891.2010.482009
- Babor, T.F., Higgins-Biddle, J.C., Saunders, J.B., and Monteiro, M.G. (2001). *AUDIT: The Alcohol Use Disorders Identification Test, Guidelines for Use in Primary Care (2nd Ed.)*. Geneva: World Health Organization.
- Baer, J., & Kaufman, J.C. (2008). Gender differences in creativity. *The Journal of Creative Behavior*, 42, 75-105.
- Bartel, P., Borum, R., & Forth, A. (2000). *Structured Assessment for Violence Risk in Youth (SAVRY): Consultation Edition*. Tampa: Louis de la Parte Florida Mental Health Institute, University of South Florida.
- Bechtel, K., Lowenkamp, C.T., & Latessa, E. (2008). Assessing the risk of reoffending for juvenile offenders using the Youth Level of Service/Case Management Inventory. *Journal of Offender Rehabilitation*, 45, 85-108.
- Bentler, P.M. (1990). Comparative fit indices in structural models. *Psychological Bulletin*, 107, 238-246.

- Bhatt, G., Tweed, R., & Dooley, S. (2010). Strength-based approaches to youth gang prevention in B.C. A report prepared for victim services and crime prevention, Ministry of Public Safety and Solicitor General, in partnership with the National Crime Prevention Centre, Public Safety Canada. Retrieved May 8, 2012, from <http://www.pssg.gov.bc.ca/crimeprevention/publications/docs/gang-prevention-youth-strength-based.pdf>.
- Bloom, B., Owen, B., Deschenes, E., & Rosenbaum, J. (2002). Moving toward justice for female juvenile offenders in the new millennium: Modeling gender-specific policies and programs. *Journal of Contemporary Criminal Justice*, 18, 37-56.
- Bosscher, R.J., & Smit, J.H. (1998). Confirmatory factor analysis of the General Self-Efficacy Scale. *Behaviour Research and Therapy*, 36, 339-343.
- Brazeau, J.N., Teatero, M.L., Rawana, E.P., Brownlee, K., & Blanchette, L.R. (2012). The Strengths Assessment Inventory: Reliability of a new measure of psychosocial strengths for youth. *Journal of Child and Family Studies*, 21, 384-390. DOI: 10.1007/s10826-011-9489-5.
- Browne, M.W., & Cudek, R. (1993). Alternative ways of assessing model fit. In K.A. Bollen & J.S. Long (Eds.), *Testing Structural Equation Models* (pp. 136-162). Newbury Park, CA: Sage.
- Brownlee, K., Rawana, J., Franks, J., Harper, J., Bakwa, J., O'Brien, E., & Clarkson, A. (2013, March 28). A systematic review of strengths and resilience outcome

- literature relevant to children and adolescents. *Child & Adolescent Social Work Journal*, published online. doi: 10.1007/s10560-013-0301-9
- Buss, A.H., & Warren, W.L. (2000). *Aggression Questionnaire: Manual*. Los Angeles, CA: Western Psychological Services.
- Calhoun, G.B. (2001). Differences between male and female juvenile offenders as measured by the BASC. *Journal of Offender Rehabilitation*, 33, 87-96.
- Casey, S., Day, A., Howells, K., & Ward, T. (2007). Assessing suitability for offender rehabilitation: Development and validation of the Treatment Readiness Questionnaire. *Criminal Justice and Behavior*, 34, 1427-1440.
- Cauffman, E. (2008). Understanding the female offender. *The Future of Children*, 18, 119-142. doi: 10.1353/foc.0.0015
- Day, A., Howells, K., Casey, S., Ward, T., Chambers, J.C., & Birgden, A. (2009). Assessing treatment readiness in violent offenders. *Journal of Interpersonal Violence*, 24, 618-635. doi: 10.1177/0886260508317200.
- de Meneses-Gaya, C., Zuardi, A.W., Loureiro, S.R., & Crippa, J.A. (2009). Alcohol Use Disorders Identification Test (AUDIT): An updated systematic review of psychometric properties. *Psychology & Neuroscience*, 2, 83-97. doi: 10.3922/j.psns.2009.1.12
- Eppright, T.D., Kashani, J.H., Robinson, B.D., & Reid, J.C. (1993). Comorbidity of conduct disorder and personality disorders in an incarcerated juvenile population. *American Journal of Psychiatry*, 150, 1233-1236.

- Epstein, N.B., Baldwin, L.M., & Bishop, D.S. (1983). The McMaster Family Assessment Device. *Journal of Marital and Family Therapy*, 9, 171-180.
- Flora, D.B., & Curran, P.J. (2004). An empirical evaluation of alternative methods of estimation for confirmatory factor analysis with ordinal data. *Psychological Methods*, 9, 466-491. doi: 10.1037/1082-989X.9.4.466
- Griffin, H.L., Beech, A., Print, B., Bradshaw, H., & Quayle, J. (2008). The development and initial testing of the AIM2 framework to assess risk and strengths in young people who sexually offend. *Journal of Sexual Aggression*, 14, 211-225.
- Guerra, N.G., & Leaf, C. (2008). Implementing treatment programs in community and institutional settings. In R.D. Hoge, N.G. Guerra, & P. Boxer (Eds.), *Treating the Juvenile Offender* (pp. 103-126). New York: The Guilford Press.
- Hoge, R. D., & Andrews, D. A. (2011). *Youth Level of Service/Case Management Inventory (2nd ed.): YLS/CMI 2.0 interview guide*. Toronto: Multi-Health Systems
- Jackson, D. L. (2003). Revisiting sample size and the number of parameter estimates: Some support for the n:q hypothesis. *Structural Equation Modeling: A multidisciplinary Journal*, 10, 128-141.
- Kabacoff, R.I, Miller, I.W., Bishop, D.S., Epstein, N.B., & Keitner, G.I. (1990). A psychometric study of the McMaster Family Assessment Device in psychiatric, medical and nonclinical samples. *Journal of Family Psychology*, 3, 431-439.
- Kuder, G. F., & Richardson, M. W. (1937). The theory of the estimation of test reliability. *Psychometrika*, 2(3), 151–160.

- Linley, P.A., Maltby, J., Wood, A.M., Joseph, S., Harrington, S., Peterson, C., Park, N., & Seligman, M.E.P. (2007). Character strengths in the United Kingdom: The VIA inventory of strengths. *Personality and Individual Differences*, 43, 341-351.
- Lodewijks, H.P.B., de Ruiter, C., & Doreleijers, T.A.H. (2010). The impact of protective factors in desistance from violent reoffending : A study in three samples of adolescent offenders. *Journal of Interpersonal Violence*, 25, 568-587.
- Luszczynska, A., Scholz, U., & Schwarzer, R. (2005). The General Self-Efficacy Scale: Multicultural validation studies. *The Journal of Psychology*, 139, 439-457.
- Lyons, J.S. (1999). *Child and Adolescent Needs and Strengths: An Information Integration Tool for Children and Adolescents with Mental Health Challenges. CANS-MS Manual*. Retrieved from <http://www.praedfoundation.org/CANS-MH%20Manual.pdf> on February 11, 2013.
- Mills, J. F., & Kroner, D. G. (1999). *Measures of Criminal Attitudes and Associates: User Guide*. Selby, Ontario, Canada.
- Mills, J.F., Kroner, D.G., & Forth, A.E. (2002). Measures of criminal attitudes and associates (MCAA): Development, factor structure, reliability, and validity. *Assessment*, 9, 240-253.
- Muthén, B.O. (1989). Latent variable modelling in heterogeneous populations. *Psychometrika*, 54, 557-585.
- Muthén, L.K. & Muthén, B. (1998-2010). *Mplus User's Guide. Version 6.1*. Los Angeles, CA: Muthén & Muthén.

- Muthén, B. O., & Muthén, L. K. (2001). *Mplus: Statistical analysis with latent variables (User's Guide, 2nd ed.)*. Los Angeles: Muthén & Muthén.
- Newman, B.M., Lohman, B.J., & Newman, P.R. (2007). Peer group membership and a sense of belonging: Their relationship to adolescent behavior problems. *Adolescence*, 42, 241–263.
- Nicholls, T.L., Viljoen, J.L., Cruise, K.R., Desmarais, S.L., & Webster, C.D. (2010). *Short-Term Assessment of Risk and Treatability: Adolescent Version (START: AV)(abbreviated manual)*. Coquitlam, Canada: BC Mental Health and Addiction Services.
- Nunnally, J., & Bernstein, I. (1994). *Psychometric Theory (3rd Ed.)*. New York: McGraw-Hill.
- Olver, M.E., Stockdale, K.C., & Wong, S.C. (2012). Short and long-term prediction of recidivism using the Youth level of Service/Case Management inventory in a sample of serious young offenders. *Law and Human Behavior*, 36, 331-344. doi: 10.1037/h0093927
- Onifade, E., Davidson, W., Campbell, C., Turke, G., Malinowski, J., & Turner, K. (2008). Predicting recidivism in probationers with the Youth Level of Service Case Management Inventory (YLS/CMI). *Criminal Justice and Behavior*, 35, 474-483.
- Paulhus, D.L. (1998). *Paulhus Deception Scales: User's Manual*. Toronto: Multi-Health Systems Inc.

- Penney, S.R., & Skilling, T.A. (2012). Moderators of informant agreement in the assessment of adolescent psychopathology: Extension to a forensic sample. *Psychological Assessment, 24*, 386-401. doi: 10.1037/a0025693
- Plattner, B., Steiner, H., The, S.S.L., Kraemer, H.C., Bauer, S.M., Kindler, J., ..., & Feucht, M. (2009). Sex-specific predictors of criminal recidivism in a representative sample of incarcerated youth. *Comprehensive Psychiatry, 50*, 400-407.
- Rawana, E., & Brownlee, K. (2009). Making the possible probable: A strength-based assessment and intervention framework for clinical work with parents, children, and adolescents. *Family Services, 90*, 255-260.
- Rawana, E.P., & Brownlee, K. (2010). *Strengths assessment inventory: Manual*. Centre of Excellence for Children & Adolescents with Special Needs: Lakehead University.
- Rawana, J.S., Norwood, S.J., & Whitley, J. (2011). A mixed-method evaluation of a strength-based bullying prevention program. *Canadian Journal of School Psychology, 26*, 283-300.
- Rennie, C.E., & Dolan, M.C. (2010). The significance of protective factors in the assessment of risk. *Criminal Behaviour and Mental Health, 20*, 8-22.
- Rosenberg, M. (1965). *Society and the Adolescent Self-Image*. Princeton, NJ: Princeton University Press.
- Seligman, M.E.P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction.

American Psychologist, 55, 5-14.

Skilling, T.A., Doiron, J.M., & Seto, M.C. (2011). Exploring differences in youth and parent reports of antisociality among adolescent sexual and nonsexual offenders.

Psychological Assessment, 23, 153-163. DOI: 10.1037/a0021229

Skilling, T., & Sorge, G.B. (2013). Measuring antisocial values and attitudes in justice-involved youth: Evaluating the psychometric properties of the Pride in Delinquency and Criminal Sentiments Scale-Modified. Submitted to Criminal Justice and Behavior.

Simourd, D.J., (1997). The Criminal Sentiments Scale-Modified and Pride In Delinquency Scale: Psychometric properties and construct validity of two measures of criminal attitudes. *Criminal Justice and Behavior*, 24, 52-70. doi: 10.1177/0093854897024001004

Simourd, D.J., & van de Ven, J. (1999). Assessment of criminal attitudes: Criterion-related validity of the Criminal Sentiments Scale – Modified and Pride in Delinquency Scale. *Criminal Justice and Behavior*, 26, 90-106. doi: 10.1177/0093854899026001005.

Sinclair, S.J., Blais, M.A., Gansler, D.A., Sandberg, E., Bistis, K., & LoCicero, A. (2010). Psychometric properties of the Rosenberg Self-Esteem Scale: Overall and across demographic groups living within the United States. *Evaluation & the Health Professions*, 33, 56-80. doi: 10.1177/0163278709356187

Steiger, J.H., & Lind, J.C. (1980, May). *Statistically-based tests for the number of*

common factors. Paper presented at the annual meeting of the Psychonomic Society, Iowa City, IA.

Tedeschi, R.G., & Kilmer, R.P. (2005). Assessing strengths, resilience, and growth to guide clinical interventions. *Professional Psychology Research and Practice*, 36, 230-237. DOI: 10.1037/0735-7028.36.3.230

Thompson, A.P., & Pope, Z. (2005). Assessing juvenile offenders: Preliminary data for the Australian adaptation of the youth level of service/case management inventory (Hoge & Andrews, 1995). *Australian Psychologist*, 40, 207-214.

Tucker, L.R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika*, 15, 47-65.

Tweed, R.G., Bhatt, G., Dooley, S., Spindler, A., Douglas, K.S., & Viljoen, J.L. (2011). Youth violence and positive psychology: Research potential through integration. *Canadian Psychology*, 52, 111-121.

Upperton, R.A., & Thompson, A.P. (2007). Predicting juvenile offender recidivism: Risk-need assessment and juvenile justice officers. *Psychiatry, Psychology and Law*, 14, 138-146.

Van der Laan, A.M., Veenstra, R., Bogaerts, S., Verhulst, F.C., & Ormel, J. (2010). Serious, minor, and non-delinquents in early adolescence: The impact of cumulative risks and promotive factors: The TRAILS study. *Journal of Abnormal Child Psychology*, 38, 339-351.

- Vasconcelos-Raposo, J., Fernandes, H., Teixeira, C., & Bertelli, R. (2012). Factorial validity and invariance of the Rosenberg Self-Esteem Scale among Portuguese youngsters. *Social Indicators Research*, 105, 483-498. doi: 10.1007/s11205-011-9782-0
- Viljoen, J.L., Elkovitch, N., Scalora, M.J., & Ullman, D. (2009). Assessment of reoffence risk in adolescents who have committed sexual offences: Predictive validity of the ERASOR, PCL:YV, YLS/CMI, and Static-99. *Criminal Justice and Behavior*, 36, 981-1000.
- Viljoen, J.L., Beneteau, J.L., Gulbransen, E., Brodersen, E., Desmarais, S.L., Nicholls, T.L., & Cruise, K.R. (2012). Assessment of multiple risk outcomes, strengths, and change with the START:AV: A short-term prospective study with adolescent offenders. *International Journal of Forensic Mental Health Services*, 11, 165-180. Doi: 10.1080/14999013.2012.737407
- Wissink, I.B., Dekovic, M., & Meijer, A.M. (2009). Adolescent friendship relations and developmental outcomes: Ethnic and gender differences. *Journal of Early Adolescence*, 29, 405-425. doi: 10.1177/0272431608322945
- Worthen, M.G.F. (2012). Gender differences in delinquency in early, middle, and late adolescence: An exploration of parent and friend relationships. *Deviant Behavior*, 33, 282-307. doi: 10.1080/01639625.2011.573421

Appendix A

Youth Level of Service/Case Management Inventory – Second Edition (Hoge & Andrews, 2011)

Part 1: Assessment of Risks and Needs

1. Prior and Current Offenses/Dispositions:

- a. Three or more prior convictions
- b. Two or more failures to comply
- c. Prior probation
- d. Prior custody
- e. Three or more current convictions
- b. Chronic drug use
- c. Chronic alcohol use
- d. Substance abuse interferes
- e. Substance use linked to offense(s)

Strength

2. Family Circumstances/Parenting:

- a. Inadequate supervision
- b. Difficulty in controlling behaviour
- c. Inappropriate discipline
- d. Inconsistent parenting
- e. Poor relations (father - youth)
- f. Poor relations (mother – youth)

Strength

6. Leisure/Recreation:

- a. Limited organized activities
- b. Could make better use of time
- c. No personal interests

Strength

3. Education/Employment:

- a. Disruptive classroom behaviour
- b. Disruptive behaviour on school property
- c. Low achievement
- d. Problems with peers
- e. Problems with teachers
- f. Truancy
- g. Unemployment/not seeing employment

Strength

7. Personality/Behaviour:

- a. Inflated self-esteem
- b. Physically aggressive
- c. Tantrums
- d. Short attention span
- e. Poor frustration tolerance
- f. Inadequate guilt feelings
- g. Verbally aggressive, impudent

Strength

4. Peer Relations:

- a. Some delinquent acquaintances
- b. Some delinquent friends
- c. No/few positive acquaintances
- d. No/few positive friends

Strength

8. Attitudes/Orientation:

- a. Antisocial attitudes
- b. Not seeking help
- c. Actively rejecting help
- d. Defies authority
- e. Callous, little concern for others

Strength

5. Substance Abuse:

- a. Occasional drug use

Part II: Summary of Risks and Needs

Check the first two pages of the assessment for omitted (circled) items. If more than four (4) items are omitted, the test should be considered invalid, and more information should be obtained before scoring. Sum the total number of items marked with an "X" within each subscale and mark the risk/need level for each. Then sum the number of Xs in Column A and in Column B. Use the combined total to complete the Overall Total Score at the bottom of the page, which is used to complete the Total Risk/Need Level box. Checkmarks in the boxes labeled "S" indicate a strength. The table below can be used for a summary.

Scores	Prior and Current Offenses	Family	Education	Peers	Substance Abuse	Leisure/ Recreation	Personality/ Behavior	Attitudes/ Orientation
Low								
Moderate								
High								
Strength								

Column A Column B

1. Prior and Current Offenses/Dispositions

Risk/Need Level:

- Low (0) ☐
Moderate (1–2) ☐
High (3–5) ☐

S

5. Substance Abuse

Risk/Need Level:

- Low (0) ☐
Moderate (1–2) ☐
High (3–5) ☐

S

2. Family Circumstances/Parenting

Risk/Need Level:

- Low (0–2) ☐
Moderate (3–4) ☐
High (5–6) ☐

S

6. Leisure/Recreation

Risk/Need Level:

- Low (0) ☐
Moderate (1) ☐
High (2–3) ☐

S

3. Education/Employment

Risk/Need Level:

- Low (0) ☐
Moderate (1–3) ☐
High (4–7) ☐

S

7. Personality/Behavior

Risk/Need Level:

- Low (0) ☐
Moderate (1–4) ☐
High (5–7) ☐

S

4. Peer Relations

Risk/Need Level:

- Low (0–1) ☐
Moderate (2–3) ☐
High (4) ☐

S

8. Attitudes/Orientation

Risk/Need Level:

- Low (0) ☐
Moderate (1–3) ☐
High (4–5) ☐

S

Total Risk/Need Levels

Custodial Male:

- ☐ Low (0–19)
☐ Moderate (20–29)
☐ High (30–36)
☐ Very High (37–42)

Custodial Female:

- ☐ Low (0–19)
☐ Moderate (20–29)
☐ High (30–36)
☐ Very High (37–42)

Community Male:

- ☐ Low (0–9)
☐ Moderate (10–21)
☐ High (22–31)
☐ Very High (32–42)

Community Female:

- ☐ Low (0–8)
☐ Moderate (9–19)
☐ High (20–28)
☐ Very High (29–42)

Column A

+

Column B

=

YLS/CMi 2.0

Total Score

Part III: Assessment of Other Needs and Special Considerations

1. Family/Parents

- | | | |
|---|---|---|
| <input type="checkbox"/> Chronic History of Offenses | <input type="checkbox"/> Financial/Accommodation Problems | <input type="checkbox"/> Abusive Mother |
| <input type="checkbox"/> Emotional Distress/Psychiatric | <input type="checkbox"/> Uncooperative Parents | <input type="checkbox"/> Significant Family Trauma (specify): _____ |
| <input type="checkbox"/> Drug/Alcohol Abuse | <input type="checkbox"/> Cultural/Ethnic Issues | <input type="checkbox"/> Other (specify): _____ |
| <input type="checkbox"/> Marital Conflict | <input type="checkbox"/> Abusive Father | |

Comments:

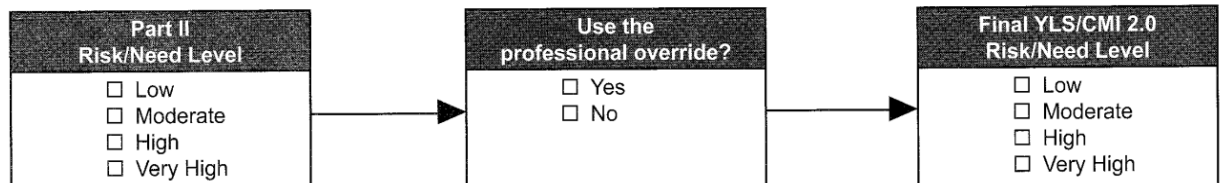
2. Youth

- | | | | |
|---|--|--|---|
| <input type="checkbox"/> Adverse Living Conditions | <input type="checkbox"/> Gang Involvement | <input type="checkbox"/> Learning Disability | <input type="checkbox"/> Self-Management Skills |
| <input type="checkbox"/> Anxious | <input type="checkbox"/> Gender Issues | <input type="checkbox"/> Low Intelligence/ Developmental Delay | <input type="checkbox"/> Shy/Withdrawn |
| <input type="checkbox"/> Communication Problems | <input type="checkbox"/> Health Problems | <input type="checkbox"/> Low Self-Esteem | <input type="checkbox"/> Suicidal Ideation/Attempts or Self-Injury |
| <input type="checkbox"/> Cruelty to Animals | <input type="checkbox"/> History of Assault on Authority Figures | <input type="checkbox"/> Manipulative | <input type="checkbox"/> Third Party Threat |
| <input type="checkbox"/> Cultural/Ethnic Issues | <input type="checkbox"/> History of Bullying | <input type="checkbox"/> Parenting Issues | <input type="checkbox"/> Underachievement |
| <input type="checkbox"/> Depressed | <input type="checkbox"/> History of Escape | <input type="checkbox"/> Peers Outside Age Range | <input type="checkbox"/> Victim of Bullying |
| <input type="checkbox"/> Diagnosis of Conduct Disorder/ Oppositional Defiant Disorder | <input type="checkbox"/> History of Fire Setting | <input type="checkbox"/> Physical Disability | <input type="checkbox"/> Victim of Neglect |
| <input type="checkbox"/> Diagnosis of Psychosis | <input type="checkbox"/> History of Running Away | <input type="checkbox"/> Poor Problem-Solving Skills | <input type="checkbox"/> Victim of Physical/Sexual Abuse |
| <input type="checkbox"/> Engages in Denial | <input type="checkbox"/> History of Sexual/Physical Assault | <input type="checkbox"/> Poor Social Skills | <input type="checkbox"/> Witness of Domestic Violence |
| <input type="checkbox"/> Fetal Alcohol Spectrum Disorder (FASD) | <input type="checkbox"/> History of Weapons Use | <input type="checkbox"/> Pregnancy Issues | <input type="checkbox"/> Other Mental Health Issues (specify below) |
| <input type="checkbox"/> Financial/Accommodation Problems | <input type="checkbox"/> Inappropriate Sexual Activity | <input type="checkbox"/> Protection Issues | <input type="checkbox"/> Other (specify below) |
| | | <input type="checkbox"/> Racist/Sexist Attitudes | |

Comments: (Note any special cultural/ethnic or gender-related responsiveness considerations)

Part IV: Final Risk/Need Level and Professional Override

Taking into account all available information, provide your estimate of the risk level for this case. If your risk estimation differs from that of the inventory, please provide reasons why.



Reasons for override: _____

Appendix B

Strengths Assessment Inventory- Youth Version (Rawana & Brownlee, 2010)

With the exception of item 114, the items were rated on the following scale:

0	1	2	
Not at all	Sometimes	Almost Always	Does not Apply

Strengths at Home

1. I show that I care about other people in my family.
2. I like to do things with my family.
3. I can talk to someone in my family when I have something important to say. I trust them.
4. I get along with my sisters and brothers.
5. I get along with other people in my family.
6. I feel badly if I do things that upset people in my family.
7. I follow the rules at home.
8. I can take responsibility for my behaviour at home.
9. I treat my family members with respect.
10. I do the chores I am asked to do.
11. I am open and honest with my parents or guardian.
12. I take care of my pet.

Strengths at School

13. I arrive on time for school.
14. I study for tests.
15. I take notes in school.
16. I use my listening skills in school.
17. I pay attention in class.
18. I can work on my own when the teacher asks me to.
19. I do my homework.
20. I can read at my grade level or higher.
21. When the teacher asks me to complete work in class, I finish on time.
22. I get along well with school staff.
23. I am involved in school sports.
24. I am involved in other things at school.
25. I enjoy school.
26. I attend my classes.
27. I arrive on time for class.

Strengths During Free Time

28. I like to watch non-violent sports on TV.
29. I have a favourite team.
30. I watch TV shows that help kids and teens to learn.
31. I play a sport outside of school.
32. I like to listen to music.
33. I play an instrument.
34. I like to read.
35. I like to write.
36. On the computer, I play games and go to web pages that are the right age for me.
37. I like to do art.
38. I do things in my community.
39. I babysit or care for younger children.
40. When I get bored, I think of something fun to do that won't get me into trouble.
41. I stay active.
42. I like to bake or cook.
43. I like games such as board games, cards, and video games that are the right age for me.
44. I like to try doing new things.
45. I like doing things outdoors like hunting, fishing, or camping.
46. I have other hobbies.

Strengths With Friends

47. I choose friends who like to have fun but stay safe and out of trouble.
48. If one of my friends has a problem, I show that I care.
49. I am honest with my friends.
50. I can be the leader with my friends when we are deciding what to do.
51. My friends like me.
52. I get along well with my friends.
53. If my friends are thinking about doing something that is not safe, I can decide not to go along with it.
54. When my friends want to fight, I know how to help solve the problem or at least keep myself safe.
55. If my friends are fighting, I know when to get help from an adult.
56. I have at least one "best" friend with whom I am really close.

Strengths from Knowing Yourself

57. I have a good sense of humour.
58. I am happy about life.
59. I am open to finding out about new things.
60. I feel hopeful about my life.
61. I can control my anger.

Strengths from Knowing Yourself (Continued)

- 62. I know my own strengths.
- 63. I feel confident.
- 64. When something does not turn out the way I hoped, I can accept it.
- 65. I can listen and accept feedback, whether it is good or bad.
- 66. If there is something I am not good at, I try to get better or doing something else I can do better.
- 67. I can tell right from wrong.
- 68. I can ask for help when I need it.
- 69. I have skills that help me to solve problems.
- 70. I can be creative or artistic.
- 71. I can judge whether my own behaviour is good or bad.
- 72. I am happy with the way I look.
- 73. I can cope when something happens that makes me very sad.
- 74. I can control my feelings when they start getting too strong.

Strengths from Keeping Clean and Healthy

- 75. I do things that help to keep me fit and active.
- 76. I keep my body clean.
- 77. I eat healthy food.
- 78. I got to bed and get up at the right time.
- 79. I keep my room clean by wiping off dust and cleaning the floor.
- 80. I put my clothes away and make my bed.
- 81. I keep my clothes looking nice.
- 82. I take my medicine and follow the instructions with care.

Strengths from Being Involved

- 83. I belong to a club, team, or program that promotes a healthy lifestyle.
- 84. I respect other people and community leaders, such as coaches and teachers.
- 85. I respect community property.
- 86. I go to events in my community.
- 87. I volunteer for groups or at events in my community.
- 88. I feel like I am a part of the community.

Strengths from Your Faith and Culture

- 89. I pray or go to worship with or without others.
- 90. I feel that my spirit is close to nature.
- 91. I believe in something bigger than myself.
- 92. I feel I am part of a culture that is special.
- 93. I think it is important to honour my culture.
- 94. I enjoy learning more about my culture and other people's cultures.
- 95. I am proud of who I am and where my people or family came from.

Strengths from Your Faith and Culture (Continued)

- 96. I respect others for who they are and where their people or family came from.
- 97. I think that there is purpose and meaning in life.
- 98. I speak more than one language.

Strengths from Your Goals and Dreams

- 99. I want very much to achieve my goals and dreams.
- 100. I work to be at a certain grade level in school.
- 101. I have a dream for when I am an adult.
- 102. I know that my life will change as I get older and I think about how I can plan for that.
- 103. When I set goals, I try hard to reach them.
- 104. I am willing to work hard to reach a goal that I have for the future.
- 105. I know how to make a plan to reach my goals.

Strengths on the Job

- 106. I use my money wisely.
- 107. I do things that will help me get a job in the future.
- 108. I contact people who might hire me and apply for jobs when I get the chance.
- 109. When I have a job, I show up for work.
- 110. I get to work on time.
- 111. I work hard on the job.
- 112. I work well with others on the job.
- 113. I look for ways to make money.

Strengths with Dating

- 114. Do you currently have a girlfriend or boyfriend? (Rated as Yes or No)
- 115. How often do you and your partner do positive things together?
- 116. I am honest and open with my partner.
- 117. I want to have a healthy relationship.
- 118. I want to make the right choices about sexual behaviour.
- 119. I can go to my boyfriend/girlfriend for help if I need it.
- 120. I trust my romantic partner with important information.
- 121. I work on fixing problems in the relationship between my partner and I if we have a fight.
- 122. We plan fun/safe activities to do together.
- 123. I treat my partner as my equal.
- 124. I help my partner to develop their strengths.

Appendix C

McMaster Family Assessment Device (Epstein, Baldwin, & Bishop, 1983)

The items were rated on the following scale:

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

AI = affective involvement; AR = affective responsiveness; BC = behaviour control; C = communication; GF = general functioning; PS = problem solving; R = reverse scored; RO = roles.

1. Planning family activities is difficult because we misunderstand each other. (GF) (R)
2. We resolve most everyday problems around the house.
3. When someone is upset the others know why. (C)
4. When you ask someone to do something, you have to check that they did it. (RO) (R)
5. If someone is in trouble, the others become too involved. (AI) (R)
6. In times of crisis, we can turn to each other for support. (GF)
7. We don't know what to do when an emergency comes up. (BC) (R)
8. We sometimes run out of things that we need. (R)
9. We are reluctant to show our affection for each other. (AR) (R)
10. We make sure members meet their family responsibilities. (RO)
11. We cannot talk to each other about the sadness we feel. (GF) (R)
12. We usually act on our decisions regarding problems. (PS)
13. You only get the interest of others when something is important to them. (AI) (R)
14. You can't tell how a person is feeling from what they are saying. (C) (R)
15. Family tasks don't get spread around enough. (RO) (R)
16. Individuals are accepted for what they are. (GF)
17. You can easily get away with breaking the rules. (BC) (R)
18. People come right out and say things instead of hinting at them. (C)
19. Some of us just don't respond emotionally. (AR) (R)
20. We know what to do in an emergency. (BC)
21. We avoid discussing our fears and concerns. (GF) (R)
22. It is difficult to talk to each other about tender feelings. (R)
23. We have trouble meeting our bills. (RO) (R)
24. After our family tries to solve a problem, we usually discuss whether it worked or not. (PS)
25. We are too self-centred. (AI) (R)
26. We can express feelings to each other. (GF)
27. We have no clear expectations about toilet habits. (BC) (R)
28. We do not show our love for each other. (AR) (R)

29. We talk to people directly rather than through go-betweens.
30. Each of us has particular duties and responsibilities.
31. There are lots of bad feelings in the family. (GF) (R)
32. We have rules about hitting people. (BC)
33. We get involved with each other only when something interests us. (AI) (R)
34. There's little time to explore personal interests. (RO) (R)
35. We often don't say what we mean. (R)
36. We feel accepted for what we are. (GF)
37. We show interest in each other when we can get something out of it personally. (AI)
38. We resolve most emotional upsets that come up. (PS)
39. Tenderness takes second place to other things in our family. (AR) (R)
40. We discuss who is to do household jobs. (RO)
41. Making decisions is a problem for our family. (GF) (R)
42. Our family shows interest in each other only when they can get something out of it.
(AI) (R)
43. We are frank with each other. (C)
44. We don't hold to any rules or standards. (BC) (R)
45. If people are asked to do something, they need reminding. (RO) (R)
46. We are able to make decisions about how to solve problems. (GF)
47. If the rules are broken, we don't know what to expect. (BC) (R)
48. Anything goes in our family. (BC) (R)
49. We express tenderness. (AR)
50. We confront problems involving feelings. (PS)
51. We don't get along well together. (GF) (R)
52. We don't talk to each other when we are angry. (C) (R)
53. We are generally dissatisfied with the family duties assigned to us. (RO) (R)
54. Even though we mean well, we intrude too much into each other's lives. (AI) (R)
55. There are rules about dangerous situations. (BC)
56. We confide in each other. (GF)
57. We cry openly. (AR)
58. We don't have reasonable transport. (R)
59. When we don't like what someone has done, we tell them. (C)
60. We try to think of different ways to solve problems. (PS)

Appendix D

Rosenberg Self-Esteem Scale (Rosenberg, 1965)

1. On the whole, I am satisfied with myself. (R)
2. At times, I think I am no good at all.
3. I feel that I have a number of good qualities. (R)
4. I am able to do things as well as most other people. (R)
5. I feel I do not have much to be proud of.
6. I certainly feel useless at times.
7. I feel that I'm a person of worth, at least on an equal plane with others. (R)
8. I wish I could have more respect for myself.
9. All in all, I am inclined to feel that I am a failure.
10. I take a positive attitude toward myself. (R)

The items were rated on the following scale:

0	1	2	3
Strongly Agree	Agree	Disagree	Strongly Disagree

R = reverse scored

Appendix E

General Self-Efficacy Scale (Bosscher & Smit, 1998)

1. If something looks too complicated, I will not even bother to try it.
2. When trying something new, I soon give up if I am not successful right away.
3. I avoid trying to learn new things when they look too difficult.
4. When I make plans, I am certain I can make them work. (R)
5. If I can't do a job the first time, I keep trying until I can do it. (R)
6. When I have something unpleasant to do, I stick to it until I finish it. (R)
7. When I decide to do something, I go right to work on it. (R)
8. Failure just makes me try harder. (R)
9. When I set important goals for myself, I rarely achieve them.
10. I do not seem to be capable of dealing with most problems that come up in my life.
11. When unexpected problems occur, I don't handle them very well.
12. I feel insecure about my ability to do things.

The items were rated on the following scale:

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

R = reverse scored

Appendix F

Corrections Victoria Treatment Readiness Questionnaire

(Casey, Day, Howells, & Ward, 2007)

Attitudes and Motivation

1. Treatment programs are rubbish. (R)
2. I am not able to do treatment programs. (R)
3. Treatment programs are for wimps. (R)
4. I want to change.
5. Stopping offending is really important to me.
6. Treatment programs don't work. (R)

Emotional Reaction

7. When I think about my last offense, I feel angry with myself.
8. I feel ashamed about my offending.
9. I am upset about being a corrections client.
10. Being seen as an offender upsets me.
11. I regret the offense that led to my last sentence.
12. I feel guilty about my offending.

Offending Beliefs

13. Others are to blame for my offenses. (R)
14. I don't deserve to be doing a sentence. (R)
15. I am to blame for my offenses.
16. When I think about my sentence, I feel angry with other people. (R)

Efficacy

17. I am well-organized.
18. I have not offended for some time now.
19. I hate being told what to do. (R)
20. Generally I can trust other people.

The items were rated on the following scale:

1	2	3	4	5
Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree

R = reverse scored

Appendix G

Youth Self-Report (Achenbach, 1991)

The items were rated on the following scale:

0	1	2
Not True	Somewhat or Sometimes True	Very True or Often True

Internalizing Problems

- 5. There is very little that I enjoy.
- 14. I cry a lot.
- 29. I am afraid of certain animals, situations, or places, other than school.
- 30. I am afraid of going to school.
- 31. I am afraid I might think or do something bad.
- 32. I feel that I have to be perfect.
- 33. I feel that no one loves me.
- 35. I feel worthless or inferior.
- 42. I would rather be alone than with others.
- 45. I am nervous or tense.
- 47. I have nightmares.
- 50. I am too fearful or anxious.
- 51. I feel dizzy or lightheaded.
- 52. I feel too guilty.
- 54. I feel overtired without good reason.
- 56. Physical problems without known medical cause:
 - 56a. Aches or pains (not stomach or headaches)
 - 56b. Headaches
 - 56c. Nausea, feel sick
 - 56d. Problems with eyes (not if corrected by glasses)
 - 56e. Rashes or other skin problems
 - 56f. Stomachaches
 - 56g. Vomiting, throwing up
- 65. I refuse to talk.
- 69. I am secretive or keep things to myself.
- 71. I am self-conscious or easily embarrassed.
- 75. I am too shy or timid.
- 91. I think about killing myself.
- 102. I don't have much energy.
- 103. I am unhappy, sad, or depressed.
- 111. I keep from getting involved with others.
- 112. I worry a lot.

Externalizing Problems

2. I drink alcohol without my parents' approval.
3. I argue a lot
16. I am mean to others.
19. I try to get a lot of attention.
20. I destroy my own things.
21. I destroy things belonging to others.
22. I disobey my parents.
23. I disobey at school.
26. I don't feel guilty after doing something I shouldn't.
28. I break rules at home, school, or elsewhere.
37. I get in many fights.
39. I hang around with kids who get in trouble.
43. I lie or cheat.
57. I physically attack people.
63. I would rather be with older kids than kids my own age.
68. I scream a lot.
72. I set fires.
81. I steal at home.
82. I steal from places other than home.
86. I am stubborn.
87. My moods or feelings change suddenly.
89. I am suspicious.
90. I swear or use dirty language.
94. I tease others a lot.
95. I have a hot temper.
96. I think about sex too much.
97. I threaten to hurt people.
99. I smoke, chew, or sniff tobacco.
101. I cut classes or skip school.
104. I am louder than other kids.
105. I use drugs for nonmedical purposes.

Total Problems (Also includes the items listed above)

1. I act too young for my age.
4. I fail to finish things that I start.
8. I have trouble concentrating or paying attention.
9. I can't get my mind off certain thoughts.
10. I have trouble sitting still.
11. I'm too dependent on adults.
12. I feel lonely.
13. I feel confused or in a fog.

Total Problems (Continued)

- 17. I daydream a lot.
- 18. I deliberately try to hurt or kill myself.
- 25. I don't get along with other kids.
- 27. I am jealous of others.
- 34. I feel that others are out to get me.
- 36. I accidentally get hurt a lot.
- 38. I get teased a lot.
- 40. I hear sounds or voices that other people think aren't there.
- 41. I act without stopping to think.
- 46. Parts of my body twitch or make nervous movements.
- 48. I am not liked by other kids.
- 58. I pick my skin or other parts of my body.
- 61. My school work is poor.
- 62. I am poorly coordinated or clumsy.
- 64. I would rather be with younger kids than kids my own age.
- 66. I repeat certain acts over and over.
- 70. I see things that other people think aren't there.
- 76. I sleep less than most kids.
- 78. I am inattentive or easily distracted.
- 79. I have a speech problem.
- 83. I store up too many things I don't need.
- 84. I do things other people think are strange.
- 85. I have thoughts that other people would think are strange.
- 100. I have trouble sleeping.

Appendix H

Aggression Questionnaire (Buss & Warren, 2000)

The items were rated on the following scale:

1	2	3	4	5
Not at All	A Little	Somewhat	Very Much	Completely
Like Me	Like Me	Like Me	Like Me	Like Me

A = anger; H = hostility; IA = indirect aggression; PA = physical aggression; VA = verbal aggression; R = reverse scored

1. My friends say that I argue a lot. (VA)
2. Other people always seem to get the breaks. (H)
3. I flare up quickly, but get over it quickly. (A)
4. I often find myself disagreeing with people. (VA)
5. At times I feel I have gotten a raw deal out of life. (H)
6. I can't help getting into arguments when people disagree with me. (VA)
7. At times I get very angry for no good reason. (A)
8. I may hit someone if he or she provokes me. (PA)
9. I wonder why sometimes I feel so bitter about things. (H)
10. I have threatened people I know. (PA)
11. Someone has pushed me so far that I hit him or her. (PA)
12. I have trouble controlling my temper. (A)
13. If I'm angry enough, I may mess up someone's work. (IA)
14. I have been mad enough to slam a door when leaving someone behind. (IA)
15. When people are bossy, I take my time doing what they want, just to show them. (IA)
16. I wonder what people want when they are nice to me. (H)
17. I have become so mad that I have broken things. (PA)
18. I sometimes spread gossip about people I don't like. (IA)
19. I am a calm person. (A) (R)
20. When people annoy me, I may tell them what I think of them. (VA)
21. I sometimes feel that people are laughing at me behind my back. (H)
22. I let my anger show when I do not get what I want. (A)
23. At times I can't control the urge to hit someone. (PA)
24. I get into fights more than most people. (PA)
25. If somebody hits me, I hit back. (PA)
26. I tell my friends openly when I disagree with them. (VA)
27. If I have to resort to violence to protect my rights, I will. (PA)
28. I do not trust strangers who are too friendly. (H)
29. At times I feel like a bomb ready to explode. (A)
30. When someone really irritates me, I might give him or her the silent treatment. (IA)

- 31. I know that “friends” talk about me behind my back. (H)
- 32. Some of my friends think I am a hothead. (A)
- 33. At times I am so jealous I can’t think of anything else. (H)
- 34. I like to play practical jokes. (IA)

Appendix I

Alcohol Use Disorders Identification Test

(Babor, Higgins-Biddle, Saunders, & Monteiro, 2001)

1. How often do you have a drink containing alcohol?

- (0) Never
- (1) Monthly
- (2) 2 to 4 times a month
- (3) 2 to 3 times a week
- (4) 4 or more times a week

2. How many drinks containing alcohol do you have on a typical day when you're drinking?

- (0) 1 to 2
- (1) 3 or 4
- (2) 5 or 6
- (3) 7 to 9
- (4) 10 or more

Items 3 to 8 were rated on the following scale:

0	1	2	3	4
Never	Less Than Monthly	Monthly	Weekly	Daily or Almost Daily

3. How often do you have six or more drinks on one occasion?

4. How often during the last year have you found that you were unable to stop drinking once you started?

5. How often during the last year have you failed to do what was normally expected of you because of drinking?

6. How often during the last year have you needed a drink first thing in the morning to get yourself going after a heavy drinking session?

7. How often during the last year have you felt guilt or remorse after drinking?

8. How often during the last year have you been unable to remember what happened the night before because of drinking?

9. Have you or someone else been injured as the result of your drinking?

- (0) No
- (1) Yes, but not in the last year
- (2) Yes, during the last year

10. Has a friend, relative, doctor, or other health worker been concerned about your drinking or suggested you cut down?

(0) No

(1) Yes, but not in the last year

(2) Yes, during the last year

Appendix J

Measure of Criminal Attitudes and Associates (Mills & Kroner, 1999)

Friends Questionnaire (the following items are completed with respect to up to 4 persons in the youth's life)

1. How much of your free time do you spend with the person?
(0) less than 25% (1) 25%-50% (2) 50%-75% (3) 75%-100%
2. How old is this person?
(1) ≤ 12 (2) 13 (3) 14 (4) 15 (5) 16 (6) 17 (7) 18 (8) 19-25 (9) 26-30 (10) 31+
3. This person is:
(0) My friend (1) My acquaintance (2) My girlfriend/boyfriend

Items 4 to 9 were rated on the following scale:

0	1
No	Yes

4. Has this person ever committed a crime?
5. Does this person have a criminal record?
6. Has this person ever been to jail?
7. Has this person tried to involve you in a crime?
8. Is this person male?
9. Is this person female?

Items 10 to 21 were rated on the following scale:

1	2	3	4	5
Never	Seldom	Sometimes	Often	Always

10. Even when there's something hard to talk about, I can be real with this friend.
11. After talking with this friend, I feel excited and happy.
12. The more time we spend together, the closer we get to each other.
13. I feel like this friend understands me.
14. My friend and I think it is important to keep making our friendship better.
15. When we don't agree, I can talk to this friend about the way I feel without worrying if she or he will think badly of me.
16. I enjoy this friendship so much that I want to find other friendships like this one.
17. It is hard to talk about my deepest feelings and thoughts with this friend.
18. This friendship makes me feel good about myself.

19. This friend helps me change for the better.
20. I can tell my friend when he or she has hurt my feelings.
21. This friendship helps me grow in important ways.

Attitudes Questionnaire

The items were rated on the following scale:

0	1
Disagree	Agree

R = reverse scored

1. It's understandable to hit someone who insults you.
2. Stealing to survive is understandable.
3. I am not likely to commit a crime in the future. (R)
4. I have a lot in common with people who break the law.
5. There is nothing wrong with beating up a child molester.
6. A person is right to take what is owed them, even if they have to steal it.
7. I would keep any amount of money I found.
8. None of my friends have committed crimes. (R)
9. Sometimes you have to fight to keep your self-respect.
10. I should be allowed to decide what is right and wrong.
11. I could see myself lying to the police.
12. I know several people who have committed crimes.
13. Someone who makes you very angry deserves to be hit.
14. Only I should decide what I deserve.
15. In certain situation I would try to outrun the police.
16. I would not steal, and I would hold it against anyone who does. (R)
17. People who get beat up usually had it coming.
18. I should be treated like anyone else no matter what I've done.
19. I would be open to cheating certain people.
20. I always feel welcomed around criminal friends.
21. It's all right to fight someone if they stole from you.
22. It's wrong for a lack of money to stop you from getting things.
23. I could easily tell a convincing lie.
24. Most of my friends don't have criminal records. (R)
25. It's not wrong to hit someone who puts you down.
26. A hungry man has the right to steal.
27. Rules will not stop me from doing what I want.
28. I have friends who have been to jail.
29. Child molesters get what they have coming.
30. Taking what is owed you is not really stealing.

31. I would not enjoy getting away with something wrong. (R)
32. None of my friends has ever wanted to commit a crime. (R)
33. It's not wrong to fight to save face.
34. Only I can decide what is right and wrong.
35. I would run a scam if I could get away with it.
36. I have committed a crime with friends.
37. Someone who makes you really angry shouldn't complain if they get hit.
38. A person should decide what they deserve out of life.
39. For a good reason, I would commit a crime.
40. I have friends who are well known to the police.
41. There is nothing wrong with beating up someone who asks for it.
42. No matter what I've done, it's only right to treat me like everyone else.
43. I will not break the law again. (R)
44. It is reasonable to fight someone who cheated you.
45. A lack of money should not stop you from getting what you want.
46. I would be happy to fool the police.

Appendix K

Pride In Delinquency Scale (Simourd, 1997)

1. Beating up a child molester.
2. Committing sexual assault.
3. Breaking into a family's home when no one is in and stealing jewellery and a VCR.
4. Seeing a store being robbed and not calling the police.
5. Driving home after a party when you've had too much to drink.
6. Striking someone who insults you.
7. Selling cocaine.
8. Carrying a concealed weapon.
9. Pointing a shotgun at a store clerk your own age and telling him/her to hand over all the money in the till.
10. Getting away from the police after a high speed chase.

The items were rated on the following scale:

Very Ashamed					Neutral										Very Proud					
-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10

Appendix L

Paulhus Deception Scales (Paulhus, 1998)

The items were rated on the following scale:

Not True		Somewhat True		Very True
1	2	3	4	5

R = reverse scored

Self-Deceptive Enhancement

1. My first impressions of people usually turn out to be right.
2. It would be hard for me to break any of my bad habits. (R)
3. I don't care to know what other people really think about me.
4. I have not always been honest with myself. (R)
5. I always know why I like things.
6. When my emotions are aroused, it biases my thinking. (R)
7. Once I've made up my mind, other people cannot change my opinion.
8. I am not always concerned about safety. (R)
9. I am fully in control of my own fate.
10. It's hard for me to shut off a disturbing thought. (R)
11. I never regret my decisions.
12. I sometimes lose out on things because I can't make up my mind soon enough. (R)
13. I would vote because I know my vote will make a difference.
14. People don't seem to notice me and my abilities. (R)
15. I am a completely rational person.
16. I rarely appreciate criticism. (R)
17. I am very confident of my judgements.
18. I have sometimes doubted my ability to attract a partner. (R)
19. It's alright with me if some people happen to dislike me.
20. I'm just an average person. (R)

Impression Management

21. I sometimes tell lies if I have to. (R)
22. I never cover up my mistakes.
23. There have been occasions when I have taken advantage of someone. (R)
24. I never swear.
25. I sometimes try to get even rather than forgive and forget. (R)
26. I always obey laws, even if I'm unlikely to get caught.
27. I have said something bad about a friend behind his/her back. (R)
28. When I hear people talking privately, I avoid listening.

Impression Management (Continued)

- 29. I have received too much change from a clerk without telling him or her. (R)
- 30. At school, I have always admitted when I ditched class without a reason.
- 31. When I was younger, I sometimes stole things. (R)
- 32. I have never dropped litter on the street.
- 33. I sometimes drive faster than the speed limit. (R)
- 34. I never read sexy books or watch adult videos.
- 35. I have done things that I don't tell other people about. (R)
- 36. I never take things that don't belong to me.
- 37. I have taken time off school for being ill, even though I wasn't really sick. (R)
- 38. I have never damaged store goods without reporting it.
- 39. I have some pretty awful habits. (R)
- 40. I don't gossip about other people's business.

Appendix M

Demographic and Offence Coding Manual

1. Date completed by researcher: _____
(dd/mm/yyyy)
2. Sample:
 - a. Sundance
 - b. Achievement St. Lawrence
 - c. Roy McMurtry Youth Centre
 - d. William E. Hay Youth Centre
 - e. Child, Youth and Family Program
 - f. Other: _____
3. Name of researcher: _____
4. Youth's date of birth (dd/mm/yy): _____
5. Current age: _____
6. Gender
 - a. male
 - b. female
7. Ethnicity:
 - a. Aboriginal
 - b. African American
 - c. Asian
 - d. Caucasian
 - e. East Indian
 - f. Hispanic
 - g. Other: _____
8. Current Disposition:
 - a. Probation
 - b. Open custody
 - c. Secure custody
 - d. Conditional Discharge
 - e. Intensive Supervision and Support Order (ISSO)
 - f. Court ordered assessment (court outcome pending)
 - g. Other: _____

Official details of current offence

12. _____ # of accomplices (enter 0 for solo)

13. Relationship to accomplice(s)

- a. Family members_____
- b. Boyfriend/girlfriend
- c. Friends
- d. Acquaintances
- e. Strangers
- f. Other_____

14. Degree of planning

- a. Spontaneous (< hour)
- b. Limited (1 – 4 hours)
- c. Deliberate (< 1 day)
- d. Well-planned (more than a day)

15. Intoxicated?

- a. Drugs
- b. Alcohol
- c. both

16. _____ # of victims

17. Who was the victim(s) (circle all that apply)

- a. Family member_____
- b. Boyfriend/girlfriend
- c. Friend
- d. Acquaintance
- e. Stranger
- f. Other_____

18. Gender of victim(s)

- a. male
- b. female

19. Extent of physical injuries (most serious)

- a. No injury
- b. Slight injury, no weapon
- c. Slight injury, weapon
- d. Victim treated in clinic/ER and released

- e. Victim hospitalized at least one night
- f. Victim died

20. Degree of force used (most serious)

- a. None
- b. Threaten to use force, no weapon
- c. Threatened to use force, weapon
- d. Physical aggression, minor assault(hit, slap)
- e. Physical aggression, major assault (wounded)
- f. Caused death

21. Weapon used?

- a. Knife
- b. Gun
- c. Other_____

22. Apparent Motivation (circle all that apply)

- a. Revenge
- b. Jealousy
- c. Rejection
- d. Anger
- e. Heated argument
- f. Face saving/status protection
- g. Economic (\$\$\$)
- h. Thrill/excitement
- i. Other_____

23. # of official current convictions for index offence:

- a. _____ Theft
- b. _____ Break and Enters
- c. _____ Narcotics (using)
- d. _____ Narcotics (selling/transporting)
- e. _____ Robbery-no weapon
- f. _____ Robbery-with weapon
- g. _____ Assault (level_____)
- h. _____ Homicide
- i. _____ Serious driving
- j. _____ Weapons-possession
- k. _____ Weapons-use
- l. _____ Threats
- m. _____ Breaches
- n. _____ UAL/Escapes

- o. _____ Sexual offences
- p. _____ Prostitution
- q. _____ Frauds
- r. _____ Obstruct
- s. _____ Other: _____

24. # of past official convictions

- a. _____ Theft
- b. _____ Break and Enters
- c. _____ Narcotics (using)
- d. _____ Narcotics (selling/transporting)
- e. _____ Robbery-no weapon
- f. _____ Robbery-with weapon
- g. _____ Assault (level_____)
- h. _____ Homicide
- i. _____ Serious driving
- j. _____ Weapons-possession
- k. _____ Weapons-use
- l. _____ Threats
- m. _____ Breaches
- n. _____ UAL/Escapes
- o. _____ Sexual offences
- p. _____ Prostitution
- q. _____ Frauds
- r. _____ Obstruct
- s. _____ Other: _____

Appendix N

Factor loadings

Table N1

Results of Confirmatory Factor Analysis of the Content Scales, by Analysis Group

SAI Scale/Item	Standardized Loading	Standard Error	Critical Ratio
<i>1. Strengths at Home</i>			
1. I show that I care about other people in my family.	.64	.06	11.19
2. I like to do things with my family.	.71	.05	14.70
3. I can talk to someone in my family when I have something important to say. I trust them.	.72	.04	16.17
4. I get along with my sisters and brothers.	.64	.06	10.60
5. I get along with other people in my family.	.62	.05	11.13
6. I feel badly if I do things that upset people in my family.	.70	.05	13.12
7. I follow the rules at home.	.80	.04	19.53
8. I can take responsibility for my behaviour at home.	.72	.05	15.97
9. I treat my family members with respect.	.70	.05	13.76
10. I do the chores I am asked to do.	.62	.06	11.10
11. I am open and honest with my parents or guardian.	.76	.04	19.60
12. I take care of my pet.	.22	.12	1.76
<i>Strengths at School</i>			
13. I arrive on time for school.	.81	.03	28.06
14. I study for tests.	.76	.04	19.75
15. I take notes in school.	.68	.04	16.44
16. I use my listening skills in school.	.86	.03	31.11
17. I pay attention in class.	.77	.04	21.08
18. I can work on my own when the teacher asks me to.	.65	.05	13.17
19. I do my homework.	.71	.04	16.27

SAI Scale/Item	Standardized Loading	Standard Error	Critical Ratio
<i>Strengths at School (continued)</i>			
20. I can read at my grade level or higher.	.45	.07	6.25
21. When the teacher asks me to complete work in class, I finish on time.	.62	.05	12.06
22. I get along well with school staff.	.59	.05	11.22
23. I am involved in school sports.	.37	.07	5.48
24. I am involved in other things at school.	.51	.07	7.78
25. I enjoy school.	.61	.05	11.10
26. I attend my classes.	.78	.04	20.59
27. I arrive on time for class.	.85	.03	29.02
<i>2. Strengths During Free Time</i>			
28. I like to watch non-violent sports on TV.	.44	.06	6.90
29. I have a favourite team.	.38	.07	5.85
30. I watch TV shows that help kids and teens to learn.	.50	.07	7.35
31. I play a sport outside of school.	.32	.07	4.78
32. I like to listen to music.	.19	.12	1.65
33. I play an instrument.	.45	.08	5.85
34. I like to read.	.57	.05	10.71
35. I like to write.	.56	.05	10.32
36. On the computer, I play games and go to web pages that are the right age for me.	.58	.06	10.54
37. I like to do art.	.56	.05	10.33
38. I do things in my community.	.62	.05	12.24
39. I babysit or care for younger children.	.48	.06	7.51
40. When I get bored, I think of something fun to do that won't get me into trouble.	.70	.05	14.22
41. I stay active.	.66	.05	13.50
42. I like to bake or cook.	.52	.06	9.03
43. I like games such as board games, cards, and video games that are the right age for me.	.54	.06	9.73
44. I like to try doing new things.	.66	.05	13.71

SAI Scale/Item	Standardized Loading	Standard Error	Critical Ratio
<i>2. Strengths During Free Time (continued)</i>			
45. I like doing things outdoors like hunting, fishing, or camping.	.60	.05	12.50
46. I have other hobbies.	.45	.07	6.35
<i>Strengths With Friends</i>			
47. I choose friends who like to have fun but stay safe and out of trouble.	.64	.06	10.92
48. If one of my friends has a problem, I show that I care.	.68	.05	13.73
49. I am honest with my friends.	.73	.04	17.86
50. I can be the leader with my friends when we are deciding what to do.	.45	.07	6.77
51. My friends like me.	.84	.05	18.10
52. I get along well with my friends.	.87	.04	22.62
53. If my friends are thinking about doing something that is not safe, I can decide not to go along with it.	.61	.05	11.98
54. When my friends want to fight, I know how to help solve the problem or at least keep myself safe.	.74	.04	16.83
55. If my friends are fighting, I know when to get help from an adult.	.74	.05	14.58
56. I have at least one "best" friend with whom I am really close.	.31	.09	3.39
<i>3. Strengths from Knowing Yourself</i>			
57. I have a good sense of humour.	.37	.08	4.72
58. I am happy about life.	.59	.05	10.86
59. I am open to finding out about new things.	.64	.05	12.59
60. I feel hopeful about my life.	.68	.05	14.98
61. I can control my anger.	.65	.05	13.70
62. I know my own strengths.	.64	.05	12.58
63. I feel confident.	.73	.04	19.64
64. When something does not turn out the way I hoped, I can accept it.	.79	.04	21.43
65. I can listen and accept feedback, whether it is good or bad.	.69	.05	15.16

SAI Scale/Item	Standardized Loading	Standard Error	Critical Ratio
<i>3. Strengths from Knowing Yourself</i> (continued)			
66. If there is something I am not good at, I try to get better or doing something else I can do better.	.49	.06	7.99
67. I can tell right from wrong.	.57	.06	10.18
68. I can ask for help when I need it.	.50	.06	8.57
69. I have skills that help me to solve problems.	.66	.05	14.48
70. I can be creative or artistic.	.48	.06	7.92
71. I can judge whether my own behaviour is good or bad.	.42	.06	6.59
72. I am happy with the way I look.	.66	.05	13.32
73. I can cope when something happens that makes me very sad.	.73	.05	14.75
74. I can control my feelings when they start getting too strong.	.69	.05	15.14
<i>Strengths from Keeping Clean and Healthy</i>			
75. I do things that help to keep me fit and active.	.62	.07	9.40
76. I keep my body clean.	.49	.10	4.95
77. I eat healthy food.	.55	.06	8.58
78. I got to bed and get up at the right time.	.75	.04	17.01
79. I keep my room clean by wiping off dust and cleaning the floor.	.86	.04	23.11
80. I put my clothes away and make my bed.	.89	.03	25.96
81. I keep my clothes looking nice.	.72	.06	13.03
82. I take my medicine and follow the instructions with care.	.48	.09	5.62
<i>4. Strengths from Being Involved</i>			
83. I belong to a club, team, or program that promotes a healthy lifestyle.	.56	.07	7.68
84. I respect other people and community leaders, such as coaches and teachers.	.70	.05	13.71
85. I respect community property.	.81	.04	20.85

SAI Scale/Item	Standardized Loading	Standard Error	Critical Ratio
<i>4. Strengths from Being Involved (cont'd)</i>			
86. I go to events in my community.	.79	.05	17.80
87. I volunteer for groups or at events in my community.	.79	.04	18.18
88. I feel like I am a part of the community.	.74	.05	16.38
<i>Strengths from Your Faith and Culture</i>			
89. I pray or go to worship with or without others.	.70	.05	13.73
90. I feel that my spirit is close to nature	.62	.06	10.82
91. I believe in something bigger than myself.	.58	.06	9.52
92. I feel I am part of a culture that is special.	.82	.037	21.75
93. I think it is important to honour my culture.	.86	.03	30.94
94. I enjoy learning more about my culture and other people's cultures.	.83	.03	24.47
95. I am proud of who I am and where my people or family came from.	.77	.05	16.15
96. I respect others for who they are and where their people or family came from.	.82	.04	19.24
97. I think that there is purpose and meaning in life.	.73	.05	13.83
98. I speak more than one language.	.34	.08	5.18
<i>Strengths from Your Goals and Dreams</i>			
99. I want very much to achieve my goals and dreams.	.68	.07	10.32
100. I work to be at a certain grade level in school.	.66	.06	11.73
101. I have a dream for when I am an adult.	.82	.06	14.93
102. I know that my life will change as I get older and I think about how I can plan for that.	.88	.03	25.80
103. When I set goals, I try hard to reach them.	.87	.03	29.67

SAI Scale/Item	Standardized Loading	Standard Error	Critical Ratio
<i>Strengths from Your Goals and Dreams</i> (continued)			
104. I am willing to work hard to reach a goal that I have for the future.	.87	.04	23.60
105. I know how to make a plan to reach my goals.	.73	.05	13.56
<i>5. Strengths on the Job</i>			
106. I use my money wisely.	.39	.07	5.28
107. I do things that will help me get a job in the future.	.62	.06	10.41
108. I contact people who might hire me and apply for jobs when I get the chance.	.56	.07	7.99
109. When I have a job, I show up for work.	.93	.03	29.00
110. I get to work on time.	.92	.04	26.36
111. I work hard on the job.	.89	.04	22.50
112. I work well with others on the job.	.82	.05	17.95
113. I look for ways to make money.	.45	.09	5.10
<i>Strengths with Dating</i>			
115. How often do you and your partner do positive things together?	.78	.05	14.44
116. I am honest and open with my partner.	.85	.05	18.10
117. I want to have a healthy relationship.	.91	.06	15.33
118. I want to make the right choices about sexual behaviour.	.77	.07	10.68
119. I can go to my boyfriend/girlfriend for help if I need it.	.84	.05	16.38
120. I trust my romantic partner with important information.	.91	.04	24.21
121. I work on fixing problems in the relationship between my partner and I if we have a fight.	.95	.03	32.87
122. We plan fun/safe activities to do together.	.76	.05	15.84
123. I treat my partner as my equal.	.83	.06	14.90

SAI Scale/Item	Standardized Loading	Standard Error	Critical Ratio
<i>Strengths with Dating (continued)</i>	.86	.04	22.08
124. I help my partner to develop their strengths.			

Note: Item 114 ("Do you currently have a girlfriend or boyfriend") was excluded from the confirmatory factor analysis because of its dichotomous nature and strictly informational content (i.e., it is not assessing a strength or ability per se).

Table N2

Results of Confirmatory Factor Analysis of the Empirical Scales, by Analysis Group

SAI Scale/Item	Standardized Loading	Standard Error	Critical Ratio
<i>1. Competent Coping Skills</i>			
61. I can control my anger.	.67	.05	12.79
62. I know my own strengths.	.63	.06	10.75
64. When something does not turn out the way I hoped, I can accept it.	.82	.04	23.40
65. I can listen and accept feedback, whether it is good or bad.	.77	.04	18.10
66. If there is something I am not good at, I try to get better or doing something else I can do better.	.60	.06	10.18
67. I can tell right from wrong.	.60	.06	10.04
69. I have skills that help me to solve problems.	.67	.05	13.22
71. I can judge whether my own behaviour is good or bad.	.51	.07	7.82
73. I can cope when something happens that makes me very sad.	.70	.06	12.09
74. I can control my feelings when they start getting too strong.	.69	.05	14.27
<i>Optimism for the Future</i>			
97. I think that there is purpose and meaning in life.	.65	.06	11.17
99. I want very much to achieve my goals and dreams.	.73	.07	11.27
100. I work to be at a certain grade level in school.	.66	.06	11.24
101. I have a dream for when I am an adult.	.81	.05	15.62
102. I know that my life will change as I get older and I think about how I can plan for that.	.83	.04	21.93
103. When I set goals, I try hard to reach them.	.89	.03	35.47
104. I am willing to work hard to reach a goal that I have for the future.	.87	.03	25.71

SAI Scale/Item	Standardized Loading	Standard Error	Critical Ratio
<i>Optimism for the Future (continued)</i>			
105. I know how to make a plan to reach my goals.	.73	.05	14.19
<i>Creativity</i>			
34. I like to read.	.66	.06	11.32
35. I like to write.	.75	.06	13.15
37. I like to do art.	.49	.07	6.87
42. I like to bake or cook.	.59	.08	7.82
70. I can be creative or artistic.	.72	.07	10.00
<i>2. Commitment to Family Values</i>			
5. I get along with other people in my family.	.54	.07	7.85
6. I feel badly if I do things that upset people in my family.	.69	.06	11.46
7. I follow the rules at home.	.82	.04	18.62
8. I can take responsibility for my behaviour at home.	.76	.05	16.19
9. I treat my family members with respect.	.73	.05	14.03
10. I do the chores I am asked to do.	.66	.05	12.47
11. I am open and honest with my parents or guardian.	.72	.05	15.20
12. I take care of my pet.	.28	.12	2.39
<i>Peer Connectedness</i>			
51. My friends like me.	.96	.07	14.60
52. I get along well with my friends.	.96	.07	14.77
56. I have at least one "best" friend with whom I am really close.	.24	.12	2.11
57. I have a good sense of humour.	.23	.12	1.93
<i>Functional Classroom Behaviour</i>			
14. I study for tests.	.81	.04	23.19
15. I take notes in school.	.74	.04	17.75
16. I use my listening skills in school.	.90	.03	32.24
17. I pay attention in class.	.79	.04	20.84
18. I can work on my own when the teacher asks me to.	.63	.05	11.95

SAI Scale/Item	Standardized Loading	Standard Error	Critical Ratio
<i>Functional Classroom Behaviour (cont'd)</i>			
19. I do my homework.	.76	.04	18.55
21. When the teacher asks me to complete work in class, I finish on time.	.62	.06	11.24
<i>3. Wellbeing</i>			
58. I am happy about life.	.74	.06	13.03
60. I feel hopeful about my life.	.81	.05	16.89
63. I feel confident.	.78	.05	14.79
72. I am happy with the way I look.	.76	.06	13.32
<i>Health Conscientiousness</i>			
41. I stay active.	.52	.07	8.04
75. I do things to help to keep me fit and active.	.67	.05	12.62
76. I keep my body clean.	.51	.09	5.61
77. I eat healthy food.	.53	.06	8.86
78. I got to bed and get up at the right time.	.68	.05	14.58
79. I keep my room clean by wiping off dust and cleaning the floor.	.86	.03	25.04
80. I put my clothes away and make my bed.	.90	.03	30.95
81. I keep my clothes looking nice.	.74	.05	14.61
<i>Activity Engagement</i>			
28. I like to watch non-violent sports on TV.	.86	.06	15.11
29. I have a favourite team.	.76	.07	11.71
45. I like doing things outdoors like hunting, fishing, or camping.	.42	.09	4.70
46. I have other hobbies.	.30	.10	2.96
<i>4. Respect for Own Culture</i>			
89. I pray or go to worship with or without others.	.79	.05	17.18
90. I feel that my spirit is close to nature.	.68	.06	12.53
91. I believe in something bigger than myself.	.61	.06	10.13

SAI Scale/Item	Standardized Loading	Standard Error	Critical Ratio
<i>4. Respect for Own Culture (continued)</i>			
92. I feel I am part of a culture that is special.	.84	.03	24.68
93. I think it is important to honour my culture.	.88	.03	30.94
94. I enjoy learning more about my culture and other people's cultures.	.85	.04	24.25
95. I am proud of who I am and where my people or family came from.	.56	.08	7.06
<i>Pro-social Attitudes</i>			
40. When I get bored, I think of something fun to do that won't get me into trouble.	.55	.07	8.26
47. I choose friends who like to have fun but stay safe and out of trouble.	.59	.06	9.60
53. If my friends are thinking about doing something that is not safe, I can decide not to go along with it.	.57	.06	9.09
54. When my friends want to fight, I know how to help solve the problem or at least keep myself safe.	.81	.06	13.16
55. If my friends are fighting, I know when to get help from an adult.	.71	.07	10.68
<i>Community Engagement</i>			
23. I am involved in school sports.	.59	.06	9.90
24. I am involved in other things at school.	.62	.06	10.14
31. I play a sport outside of school.	.43	.07	6.51
38. I do things in my community.	.68	.05	14.43
83. I belong to a club, team, or program that promotes a healthy lifestyle.	.73	.05	14.01
86. I go to events in my community.	.81	.04	22.70
87. I volunteer for groups or at events in my community.	.89	.03	29.61
88. I feel like I am a part of the community.	.76	.04	19.53

CHAPTER 4

GENERAL DISCUSSION

The studies comprised in this dissertation lead to three overarching conclusions. First and foremost, current risk/needs assessment tools derived from the Risk-Need-Responsivity (RNR) framework (Andrews & Bonta, 2010), despite the addition of strength information, do not appear to be adequate measures of justice-involved youth's personal strengths; The Strengths Assessment Inventory-Youth Version (SAI-Y; Rawana & Brownlee, 2010) appears to be a more comprehensive option. Next, the process of integrating strengths in risk assessments is not unified. Lastly, the role of strengths as responsivity considerations within the RNR model remains to be investigated.

The Measurement of Youth Strengths

Diverse definitions of personal strengths and related concepts have been proposed (e.g., protective factors, resiliency, assets); thus, several measures have emerged from these various definitions (e.g., Griffin, Beech, Print, Bradshaw, & Quayle, 2008; Lodewijks, de Ruiter, & Doreleijers, 2010; Viljoen, Nicholls, Greaves, de Ruiter, & Brink, 2011). Assuming one construct is superior to the others in developmental and risk assessments, exactly which tool and conceptualization is more empirically sound, and appropriate to use with justice-involved youth, remains to be established.

The Youth Level of Service/Case Management Inventory (YLS/CMI) and YLS/CMI 2.0 strength studies (Chapter 2), together with the SAI-Y study (Chapter 3) represented a step forward in the search for a valid measure and operationalization of

strengths in justice-involved youth. The findings presented in Chapter 2 provide preliminary evidence that the YLS/CMI (Hoge & Andrews, 2002) and the YLS/CMI 2.0 (Hoge & Andrews, 2011) do not seem to be strong measures of youth strengths. Specifically, their scope as strength measures is limited, and their guidelines regarding how to use information about youth strengths clinically are ambiguous, although improved in the 2.0 version. Clinicians' potentially inaccurate or unforeseen use of the measures (see below) may have exerted a confounding effect. Further, the YLS/CMI 2.0's strength index was not significantly associated with the SAI-Y scores in Chapter 3 (SAI-Y study), which reinforces the notion that RNR-based measures may not be ideal measures of strengths.

Chapter 3 demonstrates that the SAI-Y is a reliable and valid measure to use with both male and female justice-involved youth. Given that the SAI-Y is derived from Rawana and Brownlee's (2010) view of the strength construct, findings from the SAI-Y study provide some support for the conceptualization of strengths as developmental assets (e.g., as opposed to protective factors or resilience which, albeit, were not examined). Additionally, the SAI-Y assesses a greater variety of facets of the strength construct than the RNR-based measures. Specifically, the SAI-Y encompasses all but one (substance abuse) of the strength domains of the RNR-based measures. Additionally, the SAI-Y captures many of the strengths that fall beyond the scope of the RNR tools (e.g., self-awareness, motivation, goals, connectedness to peers, effective coping skills). The psychometric properties of the risk/needs assessment tools were not examined in the

present research; the advantages of the SAI-Y as a measure of strengths can therefore not be asserted with certainty. Nevertheless, empirical evidence from the SAI-Y study indicates that the SAI-Y is a promising measure of youth strengths.

The Clinical Use of Information about Youth Strengths

The accurate measurement of a construct is instrumental to its operationalization and the standardization of clinical practices. In light of the discussion above, it is not surprising that the clinical use of information about youth strengths remains to be standardized (Franz, 2008). The YLS/CMI strength studies unequivocally show that clinicians view strengths as sufficiently important to include them in their reports and convey them to influential adults in their young clients' lives (e.g., judge, probation officers, treatment facilitators, parents). This practice is likely grounded by the assumption that strengths carry meaningful implications for treatment and rehabilitation. Clinicians considered both relative and full strengths in reports, and noted a variety of intrinsically positive attributes. On risk assessment tools, however, they identified fewer strengths and perceived them chiefly as the absence of a risk. The SAI-Y study highlighted that youth identify several strengths in themselves. These differing views reflected in strength-recording practices on the YLS/CMI 2.0 and the SAI-Y strengthen the need for multi-method, multi-informant assessments (AACAP, 1997). Rawana and Brownlee (2009) have proposed a comprehensive strength assessment and treatment framework in which using structured questionnaires (e.g., the SAI-Y or SAI-O) to gather information about strengths from multiple informants can enrich the clinician's

understanding of the youth. Further, they suggest that exploring strengths with the youth and family, using structured measures and interviewing, is an important building block of the therapeutic alliance. They also promote collaboration with the client in expanding on clients' strengths, which can help put the presenting difficulties in perspective and guide treatment planning (Rawana & Brownlee, 2009). In addition to highlighting the importance of multi-informant assessments in clinical practice, findings from the YLS/CMI 2.0 and SAI-Y studies also suggest that clinicians perceive RNR-based tools primarily as risk prediction tools rather than measures of strengths.

The Role of Strengths in the Rehabilitation Process

In light of the considerable negative consequences of criminal behaviour, the risk perspective has long predominated in forensic psychology (Viljoen et al., 2011), and risk prediction remains a focus today. In a recent article on practice and legal considerations in conducting forensic assessments with juveniles, Hoge (2012) writes of the importance of assessing risk level and needs but omits any reference to responsivity, broadly, and strengths, specifically. Strengths are portrayed as an important clinical principle within the RNR model and the Psychology of Criminal Conduct (PCC) (Andrews & Bonta, 2010). Thus, Hoge's (2012) selective omission relates to the fact that the role of strengths in risk prediction and rehabilitation remains underexamined (Andrews & Bonta, 2010) and inconclusive (e.g., Hoge, Andrews, & Leschied, 1996; Thompson & Pope, 2005).

Findings from the YLS/CMI strength study add to this inconclusiveness. Indeed, the non-significant association between YLS/CMI strengths and recidivism provides

preliminary evidence in support of the specific responsivity classification. This finding must be interpreted with caution, however, given that the YLS/CMI does not seem to be an ideal measure of strengths. Further, total risk score only accounted for a small portion of the variance in recidivism. The YLS/CMI strength study shows the fact that many factors surrounding the link between risk, strengths, and reoffending are unknown.

Future Directions

Clinicians' understanding and use of the strength construct. The YLS/CMI strength studies (Chapter 2) highlight that clinicians generally abide by a restrictive definition of strengths (i.e., absence of risk). While much was implied from their ratings on the RNR-based measures, the decision-making process which led to their final strength ratings on tools and strength noting in reports remains unclear. Conducting interviews or surveys with a broad sample of clinicians will shed light on how clinicians construe strengths and what factors influence their strength-recording practices. Disseminating information about trends and factors to consider in decision making will facilitate the standardization of strength-recording practices in forensic mental health work and, in turn, render these practices more propitious to empirical evaluation.

In the SAI-Y study, the appropriateness of the SAI-Y as a measure of justice-involved youth's strengths was demonstrated. The online scoring of the SAI-Y provides a percentage of endorsement for each domain of self-reported strength. Rawana and Brownlee (2010) recommend reporting on youth's top three content and top three empirical strength domains in reports. The wider adoption of the SAI-Y and its

recommended protocol by forensic clinicians would also help standardize the practice of strength reporting. In addition to intensifying training surrounding the manner in which strengths should be integrated in treatment (McCammon, 2012), using an explicit measure of strengths such as the SAI-Y may increase clinicians' awareness of youth strengths and help unify the conceptualization of the construct among mental health professionals.

Using strengths to optimize risk prediction. In the YLS/CMI strength study, youth strengths did not significantly predict recidivism above and beyond risk level. An indirect relationship consistent with the responsivity principle, although not tested, remains a possibility. In future research, it will be important to describe the psychometric properties of strength items in reports of the validation of assessment tools. Assessing the predictive validity of strength items using official recidivism data, and their potential role as responsivity considerations based on follow-up treatment-related information, will also be edifying. In addition to clarifying the role of strengths in the rehabilitation process, these new findings will help identify the manner—if there truly is one—in which strengths can be integrated directly into the calculation of risk in order to improve the precision of forensic predictions.

Consideration of additional factors that may influence the role of strengths in the rehabilitation process will also be useful. For instance, while the buffering effect of youth strengths in reducing delinquency is somewhat supported (Pollard, Hawkins, & Arthur, 1999), much of the evidence suggests no differential effects of protective factors and

strengths at different levels of risk (Ullrich & Coid, 2011; Hoge et al., 1996). Further, many have found that the levels and nature of risk and positive factors linked to delinquency vary throughout adolescence (Fleming, Catalano, Haggerty, & Abbott, 2010; Hoge et al., 1996; Stouthamer-Loeber, Loeber, Wei, Farrington, & Wikstrom, 2002). Gaining a better understanding of the importance of strengths at various levels of risk and stages of development will help shape and improve the use of information about strengths in risk prediction.

Building on strengths in treatment. Although strength-promotion interventions have been linked to positive treatment outcomes in youth (Brownlee et al., 2013; Durlak et al., 2007), the YLS/CMI strength studies demonstrate that clinicians rarely recommend to build on clients' strengths in clinical reports. The absence of concrete guidelines surrounding the practice of strength building, and related paucity of strength-based interventions available, are likely to blame.

Accurately identifying client strengths and sharing them with youth and their family are essential precursors to building on strengths in treatment and establishing a strong therapeutic alliance (Cox, 2006; Guerra & Leaf, 2008; Rawana & Brownlee, 2009; Rennie & Dolan, 2010). Due to the diversity of youth strengths, creativity is necessary to use identified assets in treatment (Rawana & Brownlee, 2009). For instance, adaptability and comfort with others can be harnessed in treatment to help youth achieve a perception of mastery over their environment, create support networks, and acquire emotion regulation skills (Mowder, Cummings, & McKinney, 2010). Encouraging students to

write about their strengths facilitated academic achievement in one study (Rawana, Norwood, & Whitley, 2011). Shelton (2009) reported on an expressive art intervention which resulted in significant prevention of offending behaviour in youth.

Future research will identify the specific domains of strengths that will be most effective to buffer risk factors (Farmer, Farmer, & Brooks, 2010). Meanwhile, Griffin and colleagues (2008) identified eight strengths that significantly discriminated between youth who sexually reoffended and those who did not (e.g., intelligence, having a confidant, constructive leisure interests, positive attitude from prosocial significant adult figure in life). Others have hypothesized that a variety of developmental assets (e.g., motivation, prosocial attitudes, self-concept) may also be useful in reducing offending behaviour through treatment (Guerra, Williams, Tolan, & Modecki, 2008).

Ungar (2013) posits that universal resilience factors do not exist, on account of the complex interaction of cultural, environmental, and biological factors present in individuals. Similarly, given the highly relative nature of strengths, it is unlikely that specific patterns of strength unique to justice-involved youth will be identified. Unified measurement and conceptualization may, however, lead to the discovery of domains of strength that are more common within this population, or more relevant to rehabilitation, than others. Narrowing down specific strengths is in turn important as it would facilitate the development of standardized strength-promoting interventions, which will aid in the rehabilitation of male and female justice-involved youth.

Gender differences in youth strengths. Care was taken to include as many female youth as possible in the studies presented in this dissertation. Feminist academics have proposed the existence of pathways to delinquency unique to girls (e.g., childhood trauma, substance abuse; Belknap, 2007; Daly, 1998). Empirical support for this assertion is growing. For instance, Mowder and colleagues (2010) identified four clusters of youthful offenders; although two of these represented male and female youth equally well, one was predominantly characteristic of girls and the other of boys. Others found that male and female high-risk youth presented with different specific protective factors, but an accumulation of these factors were related to similar reductions in delinquency for both genders (Hartman, Turner, Daigle, Exum, & Cullen, 2009).

In spite of efforts to make the YLS/CMI 2.0 more gender-sensitive than the previous edition, the RNR model remains largely gender neutral. Vitopoulos and colleagues (2012) observed that matching services to criminogenic needs significantly reduced recidivism for Canadian male youth, but not for their female counterparts. Male and female youth may also differ in a variety of responsivity considerations, including strengths. Chapter 3 provides some evidence of this, which requires replication. Overall, boys and girls in the justice system are similar in a number of respects but important differences have been identified. These gender differences warrant closer attention in light of their potential implications for treatment (Bloom, Owen, Deschenes, & Rosenbaum, 2002; Cauffman, 2008; Plattner et al., 2009).

Conclusions

The findings described in this dissertation expand the current body of literature on youth strengths and responsivity considerations. First, the SAI-Y assesses a broader range of youth strengths than the RNR-based measures. The adequate sample size and statistical power observed in the current work strengthen the conclusion that the SAI-Y is a valid strength assessment tool for use with Canadian justice-involved youth. While more studies are needed to confirm the suitability of the SAI-Y for use with the broader justice-involved youth population, the present findings offer some support for the conceptualization of the strength construct as developmental assets. Second, as is the case with the definition of the strength construct, the reports sampled in the present work point to an apparent lack of consensus concerning the process of integrating strengths in risk assessments. Third, many factors surrounding the interaction of risk, strengths, and recidivism are unknown. Overall, results from the three studies highlight that justice-involved youth possess several strengths that can be accurately assessed. Further, these findings constitute a step toward a strength-based approach to risk assessments.

Potential research paths are also gleaned from the results of this dissertation. Simple gestures such as including and reporting on youth strengths in empirical examinations of risk factors and recidivism will facilitate the identification of the best way to integrate strengths in risk prediction. Being mindful of the interactions of strengths with developmental stage, risk factors, and gender will shed light on the complex role of strengths in rehabilitation efforts. Longitudinal designs will be

particularly helpful to this end. Finally, developing and evaluating ways to broaden clinicians' understanding of the strength construct and determine how to build on justice-involved youth's strengths will be instrumental to optimize rehabilitation efforts.

References

- American Academy of Child and Adolescent Psychiatry. (1997). Summary of the practice parameters for the assessment and treatment of children and adolescents with Conduct Disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36, 1482-1485.
- Andrews, D.A., & Bonta, J. (2010). Rehabilitating criminal justice policy and practice. *Psychology, Public Policy, and Law*, 16, 39-55.
- Belknap, J. (2007). *The Invisible Woman: Gender, Crime, and Justice (3rd Edition)*. Belmont, CA: Thomson Wadsworth Publishing Company.
- Bloom, B., Owen, B., Deschenes, E., & Rosenbaum, J. (2002). Moving toward justice for female juvenile offenders in the new millennium: Modeling gender-specific policies and programs. *Journal of Contemporary Criminal Justice*, 18, 37-56.
- Brownlee, K., Rawana, J., Franks, J., Harper, J., Bakwa, J., O'Brien, E., & Clarkson, A. (2013, March 28). A systematic review of strengths and resilience outcome literature relevant to children and adolescents. *Child & Adolescent Social Work Journal*, published online. doi: 10.1007/s10560-013-0301-9
- Cauffman, E. (2008). Understanding the female offender. *The Future of Children*, 18, 119-142. doi: 10.1353/foc.0.0015
- Cox, K.F. (2006). Investigating the impact of strength-based assessment on youth with emotional or behavioural disorders. *Journal of Child and Family Studies*, 15, 287-301.

- Daly, K. (1998). Gender, crime, and criminology. In K. Daly (Ed.), *The Handbook of Crime and Punishment* (pp. 85-108). New York: Oxford University Press.
- Durlak, J. A., Taylor, R. D., Kawashima, K., Pachan, M. K., DuPre, E. P., Celio, C. I., ..., & Weissberg, R. P. (2007). Effects of positive youth development programs on school, family, and community systems. *American Journal of Community Psychology*, 39, 269-286.
- Farmer, T.W., Farmer, E.M.Z., & Brooks, D.S. (2010). Recasting the ecological and developmental roots of intervention for students with emotional and behavior problems: The promise of strength-based perspectives. *Exceptionality*, 18, 53-57.
- Fleming, C.B., Catalano, R.F., Haggerty, K.P., & Abbott, R.D. (2010). Relationships between level and change in family, school, and peer factors during two periods of adolescence and problem behaviour at age 19. *Journal of Youth and Adolescence*, 39, 670-682.
- Franz, J. (2008). ADMIRE: Getting practical about being strength-based. In E. J. Bruns and J. S. Walker (Eds.), *The Resource Guide to Wraparound*. Portland, OR: National Wraparound Initiative, Research, and Training Center for Family Support and Children's Mental Health.
- Griffin, H.L., Beech, A., Print, B., Bradshaw, H., & Quayle, J. (2008). The development and initial testing of the AIM2 framework to assess risk and strengths in young people who sexually offend. *Journal of Sexual Aggression*, 14, 211-225.

- Guerra, N.G., & Leaf, C. (2008). Implementing treatment programs in community and institutional settings. In R.D. Hoge, N.G. Guerra, & P. Boxer (Eds.), *Treating the Juvenile Offender* (pp. 103-126). New York: The Guilford Press.
- Guerra, N.G., Williams, K.R., Tolan, P.H., & Modecki, K.L. (2008). Theoretical and research advances in understanding the causes of juvenile offending (pp.33-53). In R.D. Hoge, N.G. Guerra, & P. Boxer (Eds.), *Treating the Juvenile Offender* (pp. 103-126). New York: The Guilford Press.
- Hartman, J.L., Turner, M.G., Daigle, L.E., Exum, M.L., & Cullen, F.T. (2009). Exploring the gender differences in protective factors: Implications for understanding resiliency. *International Journal of Offender Therapy and Comparative Criminology*, 53, 249-277.
- Hoge, R.D. (2012, May 30). Forensic assessments of juveniles: Practice and legal considerations. *Criminal Justice and Behavior*, published online. Doi: 10.1177/0093854812444024.
- Hoge, R. D., & Andrews, D. A. (2002). *Youth Level of Service/Case Management Inventory: YLS/CMI interview guide*. Toronto: Multi-Health Systems.
- Hoge, R. D., & Andrews, D. A. (2011). *Youth Level of Service/Case Management Inventory (2nd ed.): YLS/CMI 2.0 interview guide*. Toronto: Multi-Health Systems.
- Hoge, R.D., Andrews, D.A., & Leschied, A.W. (1996). An investigation of risk and protective factors in a sample of youthful offenders. *Journal of Child Psychiatry*, 37, 419-424. doi: 0021-9630(95)00150-6

- Lodewijks, H.P.B., de Ruiter, C., & Doreleijers, T.A.H. (2010). The impact of protective factors in desistance from violent reoffending : A study in three samples of adolescent offenders. *Journal of Interpersonal Violence*, 25, 568-587.
- McCammon, S. (2012). Systems of care as asset-building communities: Implementing strengths-based planning and positive youth development. *American Journal of Community Psychology*, 49, 556-565.
- Mowder, M.H., Cummings, J.A., & McKinney, R. (2010). Resiliency scales for children and adolescents: Profiles of juvenile offenders. *Journal of Psychoeducational Assessment*, 28, 326-337.
- Plattner, B., Steiner, H., The, S.S.L., Kraemer, H.C., Bauer, S.M., Kindler, J., ..., & Feucht, M. (2009). Sex-specific predictors of criminal recidivism in a representative sample of incarcerated youth. *Comprehensive Psychiatry*, 50, 400-407.
- Pollard, J.A., Hawkins, J.D., & Arthur, M.W. (1999). Risk and protection: Are both necessary to understand diverse behavioural outcomes in adolescence? *Social Work Research*, 23, 145-158.
- Rawana, E., & Brownlee, K. (2009). Making the possible probable: A strength-based assessment and intervention framework for clinical work with parents, children, and adolescents. *Family Services*, 90, 255-260.
- Rawana, E.P., & Brownlee, K. (2010). *Strengths assessment inventory: Manual*. Centre

of Excellence for Children & Adolescents with Special Needs: Lakehead University.

Rawana, J.S., Norwood, S.J., & Whitley, J. (2011). A mixed-method evaluation of a strength-based bullying prevention program. *Canadian Journal of School Psychology, 26*, 283-300.

Rennie, C.E., & Dolan, M.C. (2010). The significance of protective factors in the assessment of risk. *Criminal Behaviour and Mental Health, 20*, 8-22.

Shelton, D. (2009). Leadership, education, achievement, and development: A nursing intervention for prevention of youthful offending behavior. *Journal of the American Psychiatric Nurses Association, 14*, 429-441.

Stouthamer-Loeber, M., Loeber, R., Wei, E., Farrington, D.P., & Wikstrom, P-O., H. (2002). Risk and promotive effects in the explanation of persistent serious delinquency in boys. *Journal of Consulting and Clinical Psychology, 70*, 111-123.
Doi: 10.1037//0022-006X.70.1.111

Thompson, A.P., & Pope, Z. (2005). Assessing juvenile offenders: Preliminary data for the Australian adaptation of the youth level of service/case management inventory (Hoge & Andrews, 1995). *Australian Psychologist, 40*, 207-214.

Ullrich, S., & Coid, J. (2011). Protective factors for violence among released prisoners—effects over time and interactions with static risk. *Journal of Consulting and Clinical Psychology, 79*, 381-390.

Ungar, M. (2013). Resilience, trauma, context, and culture. *Trauma, Violence, & Abuse, 14*, 255-266. doi: 10.1 177/1524838013487805.

Viljoen, S., Nicholls, T., Greaves, C., de Ruiter, C., & Brink, J. (2011). Resilience and successful community reintegration among female forensic psychiatric patients: A preliminary investigation. *Behavioural Sciences and the Law, 29*, 752-770.

Vitopoulos, N. A., Peterson-Badali, M., & Skilling, T. A. (2012). The relationship between matching service to criminogenic need and recidivism in male and female youth: Examining the RNR principles in practice. *Criminal Justice and Behavior, 39*, 1025-1041.